Croonian Lectures
ON THE
INFLUENCE OF THE CIRCULATION ON THE NERVOUS SYSTEM.

Delivered before the Royal College of Physicians of London,

BY WALTER MOXON, M.D. LOND., F.R.C.P.

LECTURE I.—PART II.

BUT I am almost forgetting, in this digression, that I may be asked for some proof that the arrangements which I have described as a lock in the cerebral circulation actually lead to the obstruction and delay of the venous current which we are assuming they are designed for. Now, upon this question there is a very curious and interesting kind of evidence to show that throughout life the blood is held up at the mouths of the cerebral veins, and this evidence is in the so-called Pacchionian glands or bodies. If we look at this drawing of the venous system of the top of the brain in an elderly person, we see that around the points at which the veins enter the longitudinal sinus there are a number of knots of fibrous tissue, the nature of which has given rise to much inquiry and speculation from time to time. These bodies may be more or fewer in number, greater or smaller in size—may even be so large as to penetrate and even perforate the skull by their increase; but they are always there in subjects above three years old, and it is important to notice that they increase as age progresses, and are always attended by a thickened state of the pia-arachnoid membrane around the points where they take their rise in this membrane, and that they always appear about the endings of the great cerebral veins in the longitudinal sinus, and chiefly around the posterior cerebral veins. To understand the signification of these bodies and of the thickening of the membrane around them, we may reflect that the opposition of the currents in the sinus has the same effect as the meeting of the Thames with the waters of the Channel at the rising of the tide. The consequence in the case of the Thames or any tidal river is that a tide is felt for a certain distance up the river, and if it be high it floods the low-lying districts, ceasing to have any influence at a certain distance from the mouth of the river. In just the same way the quasi-tidal obstruction in the veins tells most near the mouth of the vein, and especially most on the feebler current at the side of the vein, which feebler current receives the latest small branches from the membrane, the obstruction damming up the last small branches entirely when it merely impedes the flow in the branches that feed the freer current in the middle of the vein. Now, a chronic delay in venous blood tends to cause increase and thickening of the lower forms of texture, such as fibrous tissue. Conspicuous examples both of thickening and of tuft-like growth may be seen on the capsules of the liver and spleen in heart disease and in cirrhosis. In some cases of very chronic and yet severe obstruction of the mitral valve I have seen the serous covering of the liver thickened and crowded with bodies which were exactly like in all points to the "Pacchionian glands." It was this observation, in fact, that suggested to me the explanation of the Pacchionian glands that I am giving, which is that around the mouths of the cerebral veins in the tidal area, if I may so call it, arise proofs of protracted delay of venous blood, in the form of thickening of the fibrous membrane and development of fibrous tufts, which are the Pacchionian glands, whose causation has long been a puzzle to observers. No such bodies are ever found about the points of exit of the veins at the base of the brain.

I will ask you now to direct your attention to the last particular of the anatomical part of my subject, and to consider the curious opening at the apex of the fourth ventricle, which forms the means of communication between the interior of the cerebral ventricles and the subarachnoid space of the spinal canal. It is through this opening that the cerebro-spinal fluid is driven or drawn to or from the cerebral ventricles by the action of the choroid plexuses, and thus a principal part of the escapement system of the cerebral circulation is put in operation. None of our works on anatomy bestow more than a trivial and passing notice on this opening. The edition of Quain's Anatomy that I learnt from spoke of the opening as "generally" present, and the last edition merely says on the authority of Magendie that there is such an opening. But surely throughout the entire frame, and amongst all the wonderful adaptations by which the liquids and solids of the body are actuated to their mutual duties, there is no spot more worthy of close attention than this curious aperture of escapement situated immediately above the very centre of life, and of essential service to that centre. Shall I be forgiven if I take time to describe the anatomy of the part with some care? It deserves the attention of the physiologist even if only because the sudden change of character of the surfaces which communicate at the opening is as remarkable as the difference of the surfaces which meet at the fimbriated opening of the Fallopian tubes. For the interior of the fourth ventricle is lined at the floor and sides with ependyma, or proper lining of cerebral ventricles, and this has upon its surface a layer of thick close-set epithelium, whose cells are of irregular cubical shape, and very conspicuous, whereas the subarachnoid space is entirely without lining membrane or epithelial covering. The change from the one character of surface to the other occurs very abruptly, the epithelial cells breaking into groups, and disappearing as you trace from the ventricle towards the space. The opening is in the middle line, and is another place of non-union of symmetrical parts. It is situated exactly over the spot where the central canal of the spinal cord joins the fourth ventricle. It is a hole with edges well-defined at the sides and below, but is entirely without any definiteness above; in fact, when you are proceeding from the subarachnoid space towards the fourth ventricle, upon the roof of the ventricle you find that there are no signs of a boundary at all. And, indeed, the matter is left curiously to chance, for in some subjects the choroid plexuses of the fourth ventricle wander out nearly an inch into the subarachnoid space in the most regardless manner, whilst in others they keep themselves well within the bounds that would correspond with the limits the opening reveals at the sides and floor of the ventricle. The line of demarcation between the subarachnoid space and the fourth ventricle is more than indefinite upon the roof of the ventricle; indeed, it does not exist. And the roof of the ventricle is, in fact, organised after the manner of subarachnoid space. This space runs forward on it to reach the valve of Vieussens. In other words, the subarachnoid space is in open continuity with the fourth ventricle all along the roof of the ventricle until you reach the valve of Vieussens, where a proper ependymal surface appears for the first time as you trace forwards.

The delimitation, then, between the fourth ventricle and subarachnoid space concerns only the sides and floor of the ventricle, and is entirely indefinite above. As to the sides of the ventricle, about this opening they are composed of a double membrane, the outer of which can be separated from the inner. Here is a drawing of the inner membrane after the outer has been removed. The outer membrane is the pia mater springing from the edge of the calamus scriptorius and reaching the under surface of the cerebellum, where it loses itself, or at least I always lost it. The inner membrane is a layer resembling the valve of Vieussens, but thinner. It is easily lacerable, like cerebral tissue, being composed of the felted fibrils of ependyma with a few nerve fibrils, and its inner surface is coated with the thick epithelium which I have described. It rises from the edge of the calamus scriptorius, and has pia mater at its outside, but separable from it, as I have said, and it rises up to reach the edge of the choroid plexus in the roof of the ventricle, beyond which it cannot be traced, except that it sends its epithelium over the ventricular face of the choroid plexus; not beyond this, however, so that it does not reach into the middle line of the roof. At the verge of the opening itself the pia mater extends in a fimbriated form one-twelfth of an inch or so beyond the free edge of the ependyma, and it is on this one-twelfth of an inch that the epithelium of the ependyma disappears as I have described.

I examined the opening in upwards of seventy brains removed with especial care for the purpose, and taken from subjects at different periods of life, some very early. Thus in a fœtus 2·6 inches long, which I took to be two months old, I found the three membranes—dura mater, arachnoid,

and pia mater—quite distinct, and the opening of the fourth ventricle already evident, but its relations to the cerebellum and medulla oblongata not definite, on account of the undeveloped state of those parts. The choroid plexuses of the fourth ventricle were already very well developed. At yet earlier periods I found the thalami and corpora quadrigemina protuberant on the surface of the brain, uncovered by the cerebrum, so that the membranes which even here were distinct had no relations to these parts comparable to their relations in the developed brain. I observed though that the membranes of the brain develop very early. I have found a fringed opening of the fourth ventricle in the brains of dogs and of chickens. I could not succeed in frogs, the films of membrane were so thin, and I could not be sure of more than two membranes to the spinal cord of frogs.

At the fourth and fifth months of human fœtal life the opening is quite obvious, the lips of the orifice well formed; but the edges slope from below upwards and forwards, instead of upwards and backwards, as in the adult. This appears to prove that the backward growth of the cerebellum is greater than that of the pons and medulla after the fifth month, so that the upper attachment of the edge of the orifice to the cerebellum is moved back with the growth of the cerebellum. This backward growth of the cerebellum carries back the tail of the choroid plexus often far beyond the line of the edges of the opening; the choroid plexus seems thus stretched back in linear form to prevent its obstructing the opening.

I trust I may be pardoned this long account, because of the surprisingly slighting way in which the anatomy of this most vitally essentia part of the human organisation is treated by anatomists. Not long ago a Guy's student was seriously reprehended by an examiner at the Royal College of Surgeons for speaking of a choroid plexus in the fourth ventricle. He was informed that he ought to know that the choroid plexuses are in the lateral ventricles.

Now considering that a large and free communication between the ventricles of the brain and the spinal canal through the end of the fourth ventricle is universal in all warm-blooded vertebrates, and is absolutely required in order to allow of variation in quantity of blood in the skull, and to adjust the pressure with which blood bears upon the brain; and considering that our security in changes of posture, and even in the less active matter of thinking, depends largely upon this communication, I cannot help suggesting that a little more notice should be taken of it, and a little more attention given to the facts concerning it. The admirably clear and instructive text-book of the Cambridge School of Physiology does not deign to touch the curious mechanism of the varying blood-supply to the human brain, although it treats very fully of the apparent intelligence with which a frog deprived of his cerebrum will scratch himself when tickled, and will seem to take care lest he should be upset when tilted about. Meantime I am not aware of any reasons to believe that consciousness and will must inhabit homologous parts of the brain in remote classes of vertebrates, or that light is thrown on the special functions of the human brain by experiments on frogs. When the head is inclined downwards, so as to be on a lower level than the trunk, and especially when anyone stands on his head, a sensation of great discomfort is produced, because the cerebro-spinal fluid, which is protective in natural postures, now reverses its operation, and forms a column of liquid of some length directly pressing into the ventricles of the brain, adding to the pressure which the blood produces by escaping with difficulty from the head, so that water as well as blood press forcibly upon the brain. I have never known anything more than discomfort occur from this cause, but it is well to remember the cerebro-spinal fluid, when in chloroform-syncope, &c., one is tempted to cause a flow of blood to the head by lowering it below the level of the body. For in so lowering the head you delay venous circulation, and send water as well as blood towards the brain, thus lessening the blood-changes there which you wish to increase.

To show how important it is that the opening in the fourth ventricle should be free let me shortly describe the case which first fixed my attention on the results of its absence or closure. A boy of sixteen had always been a rather slow, dull boy, forgetful and hesitative, without being at all idiotic or utterly incapable. He used to go to his father's warehouse, and amuse himself in his slow, dull way, without being of much use. This boy was one day not very well, but his illness appeared trivial. He stayed at home that day, and the next day went to bed early; he became worse in the night, being faint and weak, and a relative went to his bedside. Then quite unexpectedly, and rather suddenly, he died. I had not seen the lad during his life, but was asked to inspect the body. Nothing whatever of a morbid kind was found in the viscera of the trunk, but on raising the calvaria and removing the dura mater a very curious appearance offered itself. A large bladder, just like an hydatid, was in the right cerebral hemisphere, separating the convolutions from each other; it was about two inches in diameter. I naturally thought it was an hydatid, but on opening it I found it extended deeply into the brain, and, in short, it proved to be an immensely dilated lateral ventricle. The ventricle of the other side was almost as much dilated, but did not reach the surface. The post-mortem was made in a private house, and under the usual difficulties. I therefore took away the parts around and including the fourth ventricle. I hardened these, and examined them. There was a growth of papilloma—in fact, a wart—starting off the floor of the fourth ventricle near its apex, and running upwards to touch the roof, almost completely closing the opening of the ventricle and stopping the way of liquid out of it. The sudden death in this case and in several other cases of intra-ventricular dropsy of the brain which have come under my observation I believe to be due to inhibition of the heart through pressure upon the pneumogastric centres.

Having thus, at what I much fear will have seemed tedious length, described the mechanisms whereby variations in the quantity and in the pressure of blood within the cranium are provided for, I will now proceed to inquire whether these mechanisms are of due efficacy, and I hope to show that the provisions against undue pressure of blood within the cranium will be found so far efficient that wherever intra-cranial blood-pressure can be separated from asphyxia and strangulation, such pressure does not produce any ill result. In other words, congestion of the brain as distinguished from strangulation does not produce symptoms, and those symptoms which are supposed to be due to congestion of the brain as a distinct disease must be referred to other causes. But before beginning the course of my argument, may I make clear the position intended to be taken up. I wish to contribute towards doing away with a fallacious notion which continues from one author to another as work succeeds work on Practical Medicine—the fallacious notion that a quantity of blood forced into the vessels of the brain becomes itself the cause of several serious and even fatal diseases, which are described under the name of "congestion of the brain," or "determination of blood to the head." Whereas in such cases there is no mechanical obstruction to exit of venous blood from the cranium. I wish to show that no quantity of blood that can be forced into the vessels of a brain whose veins are not closed by obvious pressure, does as a matter of fact produce any such symptoms. I believe this may be proved beyond dispute. I should like to make it clear that in doing this I am proceeding in harmony with the great principles enunciated by the greatest of pathologists—the illustrious Professor Virchow—who, with vast learning and keen original observation, showed that we are not to look to the vessels for the initiative in diseases of the textures of the body. He proved that the life of texture is in the texture itself, its pathological as well as its natural life, and that the movements of the blood in what is called irritative or inflammatory congestion are secondary to a demand upon the blood and bloodvessels, which demand is made by the proper power of the texture elements. And these elements have power to grow and to multiply, and to exert themselves in function, dependent on the blood only as the labourer is dependent for his powers on his bread and cheese. And when I say that the forcing of blood into the vessels of the brain produces no symptoms, I do not mean that no symptoms will attend a fulness of the vessels when that fulness has been caused by disturbance of the brain's texture itself. There will be symptoms, but symptoms caused in the texture by the very irritation that drew the blood to the brain, and not to be ascribed to the blood that is drawn thither.

There is one power by which blood can be sent into the vessels of the brain with certainty, and with any degree of force that may be desired, and that power is atmospheric pressure. It needs no experiment to show that great increase of atmospheric pressure must drive the blood away from the surface of the body and into any parts that are accessible to blood and not to air; such parts are the interior

of the cranium and spinal canal. Even moderate degrees of pressure, such as an addition of half or three-quarters of an atmosphere have been noticed by Petrequin and Sandahl to cause the disappearance of a tolerably considerable hyperæmia of the conjunctiva, but such minor degrees of pressure have had no ill results upon the nervous system, although such results have been carefully watched for in air-chambers constructed for the relief of asthmatic persons. The result, as given by Sandahl, who carried out observations on an extended scale, is thus described :—"Upon the nervous system the pressure served to exert a directly soothing effect, whereas on sudden reduction of the pressure nervous phenomena made their appearance." The only marked consequence of the pressure was slowing of the pulse. But in fulfilling some of the demands of civilisation, and especially in the construction of bridges over great rivers, workmen have had to go to great depths below the surface of the water. And the human frame in some instances has been exposed to degrees of pressure vastly greater than any that could be applied in the therapeutic air-chamber. The effects produced by such great degrees of atmospheric pressure have been recorded by many observers in numerous memoirs, one of the best of which is in the *Annales de Chimie et de Physique* for 1841, by M. Triger, who worked at a depth of sixty feet in the valley of the Loire; but the greatest depth which I can find to have been reached was upwards of ninety feet, in the construction of the great bridge across the Mississippi at St. Louis. A good account of the effects of the tremendous power exerted at this great depth was published by the chief engineer, Captain Eads, and is printed in the *Medical Times and Gazette* for 1871. Like all who have witnessed and experienced the effects of such pressure, Captain Eads dwells long on the severe pain in the ears which is caused by the force acting upon the tympanic membrane until air enters by the Eustachian tubes into the tympanic cavity. No other result is noticed until the Captain speaks as follows :—"When the depth of sixty feet had been attained, some few of the workmen were affected by a muscular paralysis of the lower limbs. This was rarely accompanied with pains, and generally passed off in the course of a day or two. As the penetration of the pier progressed the paralysis became more difficult to subdue, and in some cases the arms were involved, and in a few cases the sphincter muscles of the bowels. The patients also suffered much pain in the joints when the symptoms were severe, an average of at least nine out of ten of those affected suffered no pain whatever, but soon recovered, and generally returned to the work. . . . . The total number of men employed in the air-chamber of this pier was 352; of this number about thirty were seriously affected. . . . . Twelve of the cases proved fatal. . . . . Nearly, or quite, all of these deaths happened to men unaccustomed to the work. Several died who had worked but one watch of two hours. . . . . In contrast to this is the fact that a very large number of the men (certainly one-half of those constantly employed) commenced with the work at its inception and remained throughout its continuance entirely without injury or inconvenience. . . . . Considering that the air-chamber was briefly visited by thousands of persons, including many delicate ladies, even after it had reached the bed-rock, some remaining as long as an hour in it, without any of them experiencing the slightest ill effect from the pressure, and that no cases of any importance whatever occurred amongst the workmen after the watches were reduced to one hour," Captain Eads feels satisfied that this is the true cause of the paralysis, and that by lessening still more the duration of the watches a depth considerably greater can be reached without injury to the workmen. Too long a continuance in the air-chamber was almost invariably followed by symptoms of exhaustion and paralysis.

It is necessary to note that all the accounts of this extreme pressure agree in showing that no ill results appeared during its continuance, and that the grave and sometimes fatal symptoms which occurred on its removal affected the lumbar portion of the spinal cord, producing paraplegia, which would not correspond to lesion of the brain. In fact, the brain showed a strange immunity from injury under this great pressure.

My next step will be to endeavour to estimate the extent to which blood is forced into the brain during exposure to the atmosphere of the caissons, that I may compare this forcing of blood into the brain with such stress of blood as the intrinsic powers of the circulation are able to exert upon the brain. For this purpose we will reflect as follows :—Each act of ordinary breathing exerts a force of about 42 mm. of mercury. Now, the effect of each breath is to increase the arterial pressure to a degree equal to at least twice the pressure caused by one beat of the heart. But when the body is exposed to atmospheric pressure of 42 mm. of mercury blood is driven into the closed cavity of the skull with as great force as air drives blood into the chest in ordinary breathing. So that within the cranium there would be for each 42 mm. a rise of pressure as great as that expressed by two beats of the heart (really more, because the pressure in the carotid, which I have taken as the standard of comparison, is the whole pressure within the chest, lessened by the direct pressure on the arterial blood). But the pressure at 90 ft. depth of water is about fifty times 42 mm. of mercury, so that the intra-cranial pressure produced in the caissons is as great as that of 100 heart's beats.

Now, if we observe an inhibition trace to see how many heart's beats restore the normal tension after it has been brought down by inhibition to the line of no tension, we see that about ten heart's beats suffice to bring up the full normal tension. And the atmospheric pressure of the caissons was equivalent to 100 heart's beats, so that the caisson pressure would raise normal arterial tension ten times. But as to the highest morbid arterial tension observed with the sphygmograph, Drs. Burdon-Sanderson and Galabin, kindly answering my inquiry, say that 9 oz. to 10½ oz. make the highest morbid tension they have recorded, which is about three times the normal tension as observed with the sphygmograph. But the caisson tension is ten times the normal, and hence is three times the greatest abnormal tension from intrinsic causes. So far as this comparison is valid, the general conclusion is that the caisson pressure raises the whole vascular tension within the cranium by an amount which is as great as three times the greatest morbid arterial tension that has been observed to be due to the intrinsic powers of the circulation.

I dwell upon this kind of congestion of the brain because the flow of blood to and from the brain is meantime free, and this congestion is one purely due to fulness of the vessels, so that we have an active congestion of the brain affecting only the condition of the circulation, and not starting in any variation of behaviour in the nervous tissue. In this example we can consider the effects of pressure within the vessels apart from the condition of strangulation, which condition has had a very detrimental effect, as lending a seeming support to assumptions of independent congestion of the brain. And I have thus endeavoured to show that the pressure to which Captain Eads' workmen were exposed must have the effect of filling the vessels of the brain with a current of blood under greater stress than would be possible through any action of the intrinsic forces of the circulation whilst normal entry and exit of blood from the brain was allowed. Whether the comparison of pressures I have made is valid or not, I am aware that there are questions regarding the respiration curve in the manometer tracing which are unsettled. It still remains true that the effects on removal of the pressure are so peculiar and terrible as to show how great is the degree of stress from which these symptoms form the recoil. It is evident that the physical conditions of the circulation in the nervous centres upon removal of great atmospheric pressure are unknown and probably very complicated; and I will not attempt to speculate upon the question of their nature, but only ask you, first, to observe that whatever may be the cause or causes of them, they affected only the lower end of the spinal cord; and, second, to observe that the tremendous positive pressure into the vessels of the brain did not produce upon it any effects whatever. Under the positive pressure there were no effects, and under the unknown conditions arising through sudden relief from pressure, the tip of the spinal cord was the part which showed itself to be suffering.

I will ask you to remember the negative effects of the great pressure of blood into the brain for the argument of my next lecture, and now will digress for the remainder of this lecture, to inquire why the after-effects of atmospheric pressure should involve only the lower part of the spinal cord. And then I will point to some inferences from my explanation which may have a bearing on obscure points in clinical medicine. Here I must take the liberty of drawing your attention to some very well-known anatomical points by which the curious fact that only the legs suffer in the caisson disease is, I think, quite clearly explained. I need

scarcely remind you that whilst the spinal canal extends down into the sacrum, the spinal cord does not extend below the lower border of the first lumbar vertebra; but the spinal cord gives off nerves all the way down on each side, and the spinal canal on its part is pierced on each side with a series of openings all the way down, even to the lowest part of it, at pretty even intervals, the openings serving to let out the nerves that arise from the cord. The consequence of this arrangement is of course that the distance between the place of origin of the nerves of the cord, and their place of exit from the canal is short, as to the upper nerves, but increases much as to the lower nerves, so that the nerves run nearly horizontally to the neck and upper limbs, whereas to the loins and legs they run a long way down before reaching the dura mater, extending indeed for many inches, and forming a bunch of long, loose threads, something like a horse's tail, and known as the cauda equina. Now, the spinal cord is suspended within the spinal canal in sub-arachnoid fluid, which entirely insulates it. And meantime surrounded by this liquid, and insulated by it, the spinal cord itself is out of reach of any blood-supply except such as can come to it from the brain above or else along the nerve-roots at the sides. And in fact the supply of this important part becomes, if I may so speak, one of Nature's difficulties. Let us see how the difficulty is met. The blood-supply to the spinal cord is carried out by slender vessels which come from the vertebral arteries within the cranium. There are three of these arteries—one on the front and two on the back of the cord; they are very slender, and yet have to run along its whole length. No arteries so small as these run so great a length elsewhere in the body, and pressure falls rapidly in minute arteries as the length of pipe increases, so that it becomes necessary to reinforce these slender vessels wherever possible; and advantage is taken of the nerve-roots to send up little reinforcing arteries along these. In the part of the cord corresponding to the neck, upper extremities, and trunk, where the nerve-roots are short, the reinforcing arteries are also short, and they reach and join and furnish blood to the spinal arteries—so that in this part of the cord every segment of it is supplied with blood from two directions, the anterior spinal artery bringing blood from above and the reinforcing artery from below. But when you approach the tip of the cord the supply from below becomes exceedingly precarious, and even apt to fail entirely, because upon the long strands of the cauda equina the small arteries are too narrow and too long to reinforce the cord with any certainty. But at the same time the supply from above has to be furnished with greater difficulty than in the upper regions of the cord, because the original anterior spinal artery is very far away, and the reinforcing arteries even in the lumbar region have to run considerably longer courses than they had in the cervical region.

Thus the tip of the cord has its blood-supply only from above, and deficiently even there, whilst the upper parts of the cord have a better sustained supply both from above and below; and this becomes especially the case upon the cauda equina itself, for here the arteries are exceedingly minute and uncertain in size on the several nerves. Hence we see that the tip of the spinal cord corresponding to the lower limbs and sphincters is much more weakly organised as to its circulation than are the upper parts of the cord. But lest this should seem a purely theoretical view, let me quote a report which Dr. Carrington, the able Demonstrator of Anatomy at Guy's Hospital, has kindly sent me after examining this matter for me. Dr. Carrington says:—

"I have examined seven cords in all, and send you the results. I have also written out the account of two which were the best of my specimens in a little more detail, and I can send you a like account of all if you wish it. 1. Our subjects are injected from the femoral artery; therefore, *à priori*, there would be a greater probability of the lower than of the upper end being well injected. The fact that it was not the case makes the results more striking. 2. In all the cords there was clear evidence that the anterior spinal artery filled from above downwards, the injection ceasing either at the lower end of the cord or above that part. It was obviously reinforced by vessels which entered along the nerves. 3. In no case were the reinforcing vessels on the nerves of the cauda equina injected.

"*Details.*—Case 1. Anterior spinal artery injected in upper third, injection ceased at junction with middle third; the injected part was reinforced by branches which ran along the nerves of the upper third; none of the reinforcing branches were injected in the lower two-thirds on the anterior surface. On the posterior surface the arteries which accompanied the nerves were more or less injected as far as about two inches from the commencement of the filum terminale, many were, however, uninjected. No injected arteries accompanied the nerves of the cauda equina.—Case 2. Anterior spinal artery particularly well injected as far as the beginning of the filum terminale. Beyond this point the vessel could be traced empty on the filum. The injected part of the vessel was well reinforced by vessels which ran on the nerves. On the posterior surface the arteries along the nerves were injected with varying degrees of fulness; some were uninjected as far as two inches from the end of the cord, at which point the injection ceased. The largest and lowest of these reinforcing arteries accompanied a nerve which ran for a distance of one inch within the dura mater. No injected arteries were found with any of the nerves of the cauda equina, but, *per contra*, on one of them a well marked long slender artery was found empty."

We have here convincing proof that under difficulties of circulation, such as must arise when the body is subjected to great changes of atmospheric pressure, the tip of the spinal cord is a part which would suffer from anæmia, for it is out of reach, except by vessels of great length, in proportion to their calibre. Meantime the career of these vessels is through the cerebro-spinal fluid, which forms an easy water-bed for them that may favour the freedom of flow in their minute channels. But then, unfortunately, this cerebro-spinal fluid is itself subject to variations of pressure. Indeed, it exists as a means of conveying pressure from the cranium to the spine, and we have seen that, when there is activity of circulation within the skull, the cerebro-spinal fluid is sent out to press a little, hardly within the spinal canal, on these smaller arteries of the spinal cord. So that over-much activity of the cerebral circulation would tend to compress these arteries, and interfere with the straight and narrow economy of the unfortunate end of the spinal cord. I think this is why very studious people get so delicate about the caudal ends of their spinal cords. And it is, at any rate, a good reason why students should take care to let their legs have a fair share of activity in every day's time for the establishment of proper circulation in the spinal centres. Now, whilst the tremendous pressure in the caissons is sending blood into the vessels of their brains and cords with great force the workmen feel more lively and elastic, and go up their ladders with ease. But as soon as this tremendous pressure is taken off, and the vessels of the nervous centres, instead of being intensely stuffed with blood, have a tendency to lose their contents in the same way as they do when exposed to a rarefied atmosphere; so that a general deficiency of supply arises in the previously well-filled channels. This difficulty tells most on the more weakly organised system of supply to the spinal cord, and hence the workmen are paralysed as to their lower extremities and sphincters when they go into the air.

But how, then, should any people escape? Have I not proved too much? As to this question I have observed that the anastomotic reinforcing branches of artery along the nerves vary in size upon the several nerve-roots in different subjects, and a large anastomotic branch in the dorsal region would do much to save the cord. Also it is true that the vascular tension is more efficient in some people than others. And as a matter of fact we can directly observe that some peoples' textures bear variations of blood-supply much less equably than do the textures of other people. Further, I think it probable that when the arterial supply of the cord fails under the caisson pressure the result is paralysis, but when the result of the pressure tells more on the veins—keeping them too full—the result is that pains in the limbs are complained of. But when I thus am indicating this peculiar source of weakness in the spinal cord at its lower end, it will naturally be asked whether there is any further proof of such a weakness of this part—whether the cord is paralysed under other conditions very trying to its peculiar circulation. Well, the answer to this question is not far to seek, seeing it is an otherwise and I may say a hitherto unexplained fact that in so many cases of spinal palsy from whatsoever cause the lower limbs suffer, while the upper limbs escape; whereas, so far from the lower limbs being intrinsically weaker, it is of course true that in cerebral paralysis the lower limbs suffer less and the upper limbs suffer more. Let us take the example of common paraplegia. Everybody knows that this nearly never attacks the upper limbs, but it affects the lower extremity and

lower part of the trunk, and a short experience of cases of this disease will show a remarkable uniformity in the extent to which the lower half of the body is involved. You will find almost always that the paralytic affection in common paraplegia ceases to give evidence of its presence about the lower dorsal or upper lumbar region. Numbness and paralysis are not traceable above the lower margins of the thorax, ceasing often along a rather well-defined line. The anatomical state of the substance of the cord found post-mortem to account for this is a condition of "softening"—i.e., a pathological state which is the same as that found in the brain as a consequence of impairment of nutrition by deficiency of the supply of blood. The causes of this condition are often obscure, but are in many cases evidently debilitating causes, such as in this very typical case which I met with. An Irish dock-labourer had been standing about the entrance of the docks for some days without employment, and getting little food, when he felt pins and needles run up and down his legs; and after he got home that evening he felt very weak, and went to bed. In the night, being taken with diarrhœa, he went from his bed, feeling very cold and feeble, and he could not return, being totally unable to move his legs. This man lived about a year, his disease showing all the characters of common paraplegia, and post-mortem examination showed the lumbar cord in a state of "white softening." This was one of my cases when I was clinical clerk, and it puzzled me much to know why the poor man should thus suddenly suffer from so chronic a change as white softening, and why he should only have symptoms just up to the top of the lumbar cord, and never higher in the whole course of his ailment; but I seem to know well now why it was. He was paralysed through starvation of his cord on account of the difficulties of supply to it, and the paraplegia did not extend above the lumbar cord, because the cauda equina does not extend above it, and the upper dorsal part of the cord obtained enough blood along short arteries through which the blood pressure had been able to force a sufficient supply. Indeed, the very different kinds of cause which agree in producing paralysis of the lower extremities would show that there must be some such simple and general explanation of its ready occurrence. An instance came under my observation so like that of my poor dock labourer that the similarity of effect was as remarkable as the unlikeness of causation. It was in the person of a very well-fed and healthy female cat which suffered, I am sorry to say, at my hands. A nest of thrushes was eaten by cats in my garden, and I thought it fair to retaliate by putting down a bowl of milk also containing prussic acid, and I warned a relative to keep her cat in; but, to my grief, next morning the only cat in trouble was my relative's fine cat, which lay beside the bowl of poison in a curious state, quite paralysed as to the hind legs, but otherwise unaffected. The front paws were active and vigorous, so that she could pull herself about on the level ground by means of them, but the hind legs did not make any movements for three weeks. I did what I could for her, but it was four weeks before the cat could leave the basket she was placed in, and six months elapsed before she could spring upon a wall; after this she quite recovered, and had several large families. Now, prussic acid acts by lowering the tension of the blood after a slight temporary rise, and whereas it is very difficult to suppose that the prussic acid had any preferential power over the nervous centres of one pair of legs as compared with those of the other pair, it is, I think, quite readily to be accepted that as the hinder pair draw blood through longer and very slender pipes of vessel, the cat, lying with depressed circulation nearly dead all night, suffered so much in the nutrition of the end of her spinal cord that it became almost irrecoverable. Indeed, it is interesting to observe how the very temporary action of the poison should have so damaged the cord that it was six months in recovering, whilst the damage was so adjusted that recovery was finally possible. Such an occurrence throws some light upon the curiously protracted tenacity of injury on the part of the cord, which the history of paraplegia brings so painfully forward. But it is not only prussic acid that affects the hind legs of creatures more than their fore legs. Although toxicologists have paid no attention to the difficulties of circulation in the lower end of the cord, so that no experiments have been made with the intention of developing this point, yet in reading through a book on Materia Medica one finds repeated examples of drugs which are depressants of the circulation, and which paralyse the hind legs of animals without affecting their fore legs. Among these I mention aconitia, conia, and, doubtfully, veratria and chloral. With reference to prussic acid, it is said to benumb the hind legs first.

Again, for other instances, take the very complete paraplegia of the lower extremities which so much impressed Dr. Bristowe in the highly interesting cases of Rupture of Abdominal Aneurism, which he recently published. Surely, if we consider the mode in which the arterial supply of the spinal cord would be reduced by the bursting of the aneurisms, the paraplegia in these cases is immediately comprehensible. Again, if we take the so-called urinary paraplegia, or functional paraplegia of any kind, including what is called hysterical paraplegia, we find these affections never troubling the upper limbs, but always the lower. And I think the point I have raised will suggest lines of investigation that may throw great light on this obscure class of nervous diseases. I believe that it is by impediment to the exceedingly and peculiarly difficult blood-supply of the caudal end of the spinal cord that all these various conditions lead to paralytic weakness of the lower limbs, and they are to be met by conditions improving the circulation if possible. Why the lumbar cord should be thus straitly supplied is an interesting question. Perhaps it may be connected with a necessity that the economy should be so organised as to feel fatigue early enough in the parts which directly put forth exhausting exertion, lest strain of effort should first overtake more vital parts that secondarily share in all such exertion. In short, the cord is supplied scantily, so that we should sit down when we have walked enough, and lie down when we are tired, and especially that we should, if necessary, fall down when faintness overtakes us, to the end that in the horizontal position the circulation may be able to restore itself.

Gulstonian Lectures
ON
ANÆMIA.

Delivered before the Royal College of Physicians,

BY SIDNEY COUPLAND, M.D., F.R.C.P.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE II.—PART I.

Idiopathic Anæmia: Earliest Recognition of it by Addison—Records of Cases (1851–1871) by Barclay, Lebert, Wilks, Habershon, King—Gusserow—Biermer's New Departure (1871)—Growth of its Literature in the last Decade—Wide Extension given to the Term "Pernicious"—Clinical Features of "Pernicious" Anæmia—Onset—Progress—Digestive, Circulatory, and Nervous Symptoms—Hæmorrhage—Irregular Pyrexia—Duration—Termination in Recovery—In Recovery followed by Relapse—In Death—Post-mortem Appearances.

MR. PRESIDENT AND GENTLEMEN,—It is impossible to speak of idiopathic anæmia without reference to Addison, for he it was who seems to have distinctly called attention to a class of cases in which anæmia is the prevailing symptom from first to last—an anæmia not depending upon recognised causes, not associated with wasting of the tissues, but insidious in its onset and slowly downward in its progress, revealing after death no changes but those of fatty degeneration, especially of the heart. The passage in which he summed up his experience of this condition occurs early in his essay on Disease of the Suprarenal Capsules.[1] This passage has been so often quoted that it is hardly necessary for me to repeat it now, much as I am tempted to do so, for it is a model of a succinct summary of clinical observation. It was written in 1855, but Addison's observations dated far before that period, and indeed he described the condition in

[1] See Addison's Collected Works (New Sydenham Society), p. 212. The passage is quoted by Dr. Pye-Smith in Virchow's Archiv, vol. lxv., p. 507; by Dr. S. Mackenzie, THE LANCET, 1878, vol. ii., p. 799; by Dr. Finny, Brit. Med. Jour., 1880, vol. i., p. 5; and many others.

his lectures as early as 1843.[2] There is no doubt also that similar cases had been observed, and a few recorded about the same period. In 1851 Dr. Barclay published the notes of two fatal cases of anæmia[3] occurring in St. George's Hospital. One was the case of a man aged thirty-four, admitted under Dr. Page on Jan. 21st, 1852. He had been ailing for twelve months, and had suffered from inconstant aching pain in the loins, accompanied by scanty, loaded urine. He had lately lost flesh and had a slight cough, was remarkably pallid, complained of shortness of breath and palpitation; pulse 120, and very weak; and he suffered from constipation. There was deficient breath-sound at both apices, especially the right, where it was distant and tubular; there was then no cardiac murmur. A fortnight later he was attacked by vomiting. A bellows-murmur with the systole developed, best heard in the mid-præcordia and towards the apex. He rather rapidly passed into a state of exhaustion, ending in coma, on Feb. 11th. Mr. P. Hewett, who made the autopsy, found the body well nourished, the brain very anæmic, a few extravasations in the pia mater, cretified deposits at the apex of the right lung, emphysema elsewhere, the posterior parts being engorged with frothy serum. The heart was healthy and pale, but contained large fibrinous clots in all its cavities. The abdominal viscera were bloodless, and a few cysts were observed in the left kidney. The dark and healthy colour of the muscles was observed in contrast with the pallor of the integument, and the extremely yellow colour of the subcutaneous fat was also noted. The other case was that of a married woman with several children, admitted under Dr. Wilson, Jan. 29th, 1851. She had not been well since her last confinement, four months before; had been weak, but had not suffered from hæmorrhage; she had, however, been troubled with diarrhœa for two months previously. She was extremely anæmic; pulse quick, feeble, and empty; appetite bad; urine scanty and loaded; her only complaint was of general weakness. The diarrhœa was checked by remedies, but she did not gain strength. She suffered from insomnia, and had some attacks of dyspnœa, after one of which she died, about three weeks after admission. The post-mortem examination by Dr. Ogle revealed the pallor and slightly yellowish tint of skin, slight œdema of the lower extremities, great pallor of abdominal walls, fatty kidneys, frothy serum in the lungs, some ecchymoses in the larynx, a healthy heart containing little or no coagulum, but a small quantity of semi-fluid blood.

Lebert, too, in 1853 had recorded cases of fatal "puerperal chlorosis" at Zurich—the seat of the subsequent observations of Gusserow and Biermer—and had spoken of these as examples of what he regarded as an "essential anæmia." Then, however, a long silence on the subject occurs in medical literature, broken only by the publication in Guy's Hospital Reports for 1857 of a series of cases by Dr. Wilks, under the head of "Idiopathic Fatty Degeneration," and of a case in THE LANCET for 1863,[4] by Dr. Habershon in a paper on this subject. The patient in this case was a spare woman aged forty, who had for many years been subject to attacks of vomiting, which for eight months before her admission had been almost of daily occurrence. She had much gastralgia, pain in the back and limbs, and was very pallid. The attacks of pain were renewed with much severity. She, however, improved, and left the hospital, to return a year later, "blanched, emaciated, and extremely feeble." No gastric disturbance was present now, only an extreme degree of asthenia and anæmia, under which she sank in two months. The necropsy by Dr. Wilks disclosed only intense anæmia of organs, marked fatty degeneration of the heart, and slight, passive effusions in the serous sacs. Thus, these observations showed that in the hospital of Addison, at any rate, the existence of the disease was recognised; and Dr. F. Taylor did good service in collecting all the cases observed there up to the year 1878—namely, as many as twenty-three.

Curious to learn whether the like experience had befallen the physicians of the Middlesex Hospital, I have searched the post-mortem records for any fatal cases which could be thought to have belonged to this class, and from 1844 to 1871 (excluding 1852 and part of 1851) I can find only one unequivocal case, which, it will be seen, was associated with a certain amount of gastric disease. This case occurred in 1865, its subject being a woman aged fifty-one, who was admitted for extreme anæmia three days before her death. No satisfactory history could be obtained, save that she had become rather rapidly anæmic. The skin was of a peculiar yellow hue, and she suffered from constant vomiting during her brief stay in hospital. After death the sallowness of the surface was noted, also a considerable layer of subcutaneous fat. There was effusion in the serous sacs, and œdema of the lungs. The heart was of normal size, contained a little fluid blood—no coagula, but the condition of its walls is not recorded. There was slight atheroma of the aorta. The spleen was small and normal; the kidneys small, and the seat of a few minute cysts. The gastric mucous membrane was thickened in the pyloric region and the seat of a small polypus. Recent hæmorrhage had occurred under the dura mater, and the brain was bloodless. Of other cases which come less clearly under this category I find one in 1844, of a woman, complicated by old pulmonary tubercle and recent pneumonic hepatisation; one of a boy aged eight, in 1857, thin and sallow, with slight serous effusions, ecchymoses in the heart, which is described as "yellowish, mottled, and very fatty," the liver of a deep yellow-brown colour, with bleeding points and white specks on the surface; and one in the same year of a man aged thirty-five, who died suddenly of fatty heart. These practically comprise all the cases within the period mentioned, with evidences after death of extreme anæmia and cardiac degeneration; other cases being chiefly those of cancer, renal disease, and purpura, one or two of which latter might possibly belong to the class in question. In 1871, however, an undoubted case occurred under Dr. Greenhow's care, and was published by my friend and former colleague, Dr. R. King, then medical registrar. I shall give the details of this case subsequently, but mention it now because its publication, antedated by a few weeks the appearance of an essay by Biermer, which did more than anything else to draw general attention to the subject.

Biermer's work must be taken in connexion with that of Gusserow (for both laboured in the same field), who in 1871 published six cases of a fatal form of anæmia in pregnant women. Biermer, who had previously related a case before a society at Dresden in 1868, described and summarised in the essay referred to fifteen cases of a "peculiar form of progressive pernicious anæmia, usually accompanied by fatty degeneration of the circulatory passages, and, secondarily, by hæmorrhages of the skin, retina, brain, and its serous membranes." This publication marked a distinct departure in the knowledge of this disease, and its taking and rather startling title assisted to draw attention to it. From that time to this, just ten years, a whole literature has sprung up around the subject.[5] For a time it was even thought that in this "progressive pernicious anæmia" of Biermer a new disease had been discovered, but Drs. Wilks, Taylor, and Pye-Smith reasserted the claims of Addison, and proved conclusively that no new discovery had been launched upon the world. Nor has the new nomenclature been without its drawbacks. It designates more than is implied by the term "idiopathic," much as we may wish to banish that term from nosology, and it has rather obscured than emphasised that leading fact of the condition described by Addison. For by the use of this terminology authors have been led to class together cases of anæmia depending on known causes with those truly "idiopathic," and some even speak of the supervention of pernicious anæmia in cases of cancer, for example. I shall show that this extension is perhaps justifiable provided that at the same time a distinction be made between the cases which arise spontaneously and those where the anæmia is obviously secondary. At present I will merely state my belief that pernicious anæmia includes, but does not comprise, idiopathic anæmia.

I have collected 110 cases, including most of those mentioned by M. Lépine in a review published in 1877. The number might, I believe, well be doubled, before embracing all those cases which have been recorded. Seldom has such a mass of evidence bearing on any one disease been accumulated in so short a time; and yet it is not possible to arrive at a satisfactory solution of the question of its origin. It presents us, however, with the symptomatology of anæmia in its most severe form, and throws light upon the most marked lesion produced by anæmia. Of these 110 cases, 56 were males and 54 females. The ages at which the patients came under notice—often, that is, only a short time before

[2] See Dr. S. Mackenzie's Lecture, loc. cit.
[3] Medical Times, 1851, vol. i., p. 480. [4] Vol. i., p. 518.
[5] An analysis and review by M. Lépine in 1877 (Rev. Mensuelle) has facilitated reference to this literature, but much has appeared and continues to appear since that time.

death—varied with the sexes, for among the male cases the majority—viz., 33 or 59 per cent., occurred between the ages of forty and sixty; and among the female series—34 or 63 per cent.—between twenty and forty.

MALES.

Under 10 years	...	...	...	1 case.	
10 and under 20 years	...	...	2 cases.		
20	„	30	„	...	...	8	„
30	„	40	„	...	...	9	„
40	„	50	„	...	...	19	„
50	„	60	„	...	...	14	„
60	„	70	„	...	...	3	„
					56		

FEMALES.

Under 10 years	...	...	...	0 case.	
10 and under 20 years	...	...	4 cases.		
20	„	30	„	...	...	18	„
30	„	40	„	...	...	16	„
40	„	50	„	...	...	9	„
50	„	60	„	...	...	7	„
					54		

Somewhat different statistics are given by Hermann Müller of Zurich,[6] who describes 44 cases from Prof. Biermer's clinic, 9 only being males, and 28 of the 35 females being between the ages of twenty and forty.

Age.	No.	Male.		Female.	
		Married.	Single.	Married.	Single.
15 to 20 years	... 6	... 0	... 2	... 0	... 4
21 to 30 „	... 11	... 1	... 1	... 7	... 2
31 to 40 „	... 20	... 0	... 1	... 17	... 2
41 to 50 „	... 4	... 1	... 1	... 1	... 1
51 to 55 „	... 3	...	2	... 1	... 0
	44		9		35

The preponderance of females corresponding to the period of child-bearing.

The onset of this severe affection is sometimes quite sudden—in such cases following severe mental shock or some violent emotion; or a profuse hæmorrhage, which at the time may threaten life, leaves behind it an anæmia which never disappears, and may become pernicious—i.e., may deepen in intensity in spite of treatment. More commonly this exciting cause is added to a pre-existing and long-standing anæmia, which then takes on a fatal form, or the determining event may occur in some other exhausting discharge. Leaving for the present the consideration of these prodromal influences, I may simply state now that in many cases the onset is gradual and insidious, having perhaps in some cases a foundation in conditions of blood impoverishment, but in others arising quite apart from such conditions. Or the patient may have been always below the standard of health as regards blood; may have suffered more than once from extreme anæmia, and have regained the previous level, to be finally again lowered beyond restoration. However this may be, the symptoms which usher in the condition can all be attributed to it. There is a growing pallor of the skin and visible mucous membranes: a pallor frequently mingled with a yellowish tint, and even with a slight degree of actual jaundice; and the face becomes wax-like in appearance. At the same time there is an increasing disinclination for physical exertion, partly from mere listlessness, partly from the breathlessness and palpitation which any physical effort evokes. The nutrition of the body is often well preserved; there may be, as Addison remarked, even an excessive amount of cutaneous fat. Then, as the blood becomes more impoverished, dropsical effusions may appear in the eyelids and lower limbs; but such œdema is not a constant symptom, and is generally late in its appearance. With the muscular asthenia there is often complaint of pain in the limbs or back; and headaches, vertigo, and tinnitus are frequent. Sleep is sometimes, but not usually, heavy, a lethargic, drowsy state supervening towards the end, which may pass into semi-coma. But insomnia is a more constant symptom. Delirium may occur at the close, and sometimes convulsions. On the side of the digestive system there is generally loss of appetite, it may be with actual intolerance of food, and dyspepsia with nausea and vomiting are common. Indeed, vomiting stands out prominently among the symptoms of the disease, so common, so frequent, and so early in its occurrence as to lend support to the view of Drs. Flint and Fenwick as to the essential dependence of obscure and fatal anæmia upon primary gastric derangement. Although in some cases such vomiting and other symptoms of gastro-intestinal disturbance do precede the appearance of the weakness and pallor, yet it is not always so. Thirst, too, is marked in many cases. Gastralgia and epigastric tenderness are generally associated with the dyspeptic symptoms. Then, as to the intestines, diarrhœa is almost as often met with as vomiting, occurring sometimes early in the disease, sometimes just towards the close, which it determines; and although it is amenable to treatment it may recur again and again with much severity. Constipation is not so common as diarrhœa.

As a rule, in the earlier stages, the breathing is quiet, except on exertion, which induces marked breathlessness; but sometimes, at an advanced stage, attacks of dyspnœa are frequent and painful, and may lead to a fatal result. In the cases I have had the opportunity of reading I have not found this dyspnœa recorded as being of the peculiar ascending and descending rhythm, with a period of apnœa, known as Cheyne-Stokes respiration. The association of that type of respiration with fatty degeneration of the heart was noticed by its discoverers, and though it occurs under other conditions also—e.g., uræmia, cerebral hæmorrhage, embolism, &c.—yet its association with fatty heart is still accepted. As such degeneration is the most constant morbid lesion of anæmia, it is at least singular (if it be a fact) that this type of dyspnœa does not occur. As a rule, unless there be old disease in the lungs, there are no abnormal physical signs, except towards the end of life, when these organs become engorged, and serous effusions may take place in the pleura.

Attacks of syncope are liable to occur, but do not seem to be so frequent as might be imagined. The action of the heart is generally regular and quick, often very feeble. The impulse is often widely visible, undulating, and thrilling; the area of præcordial dulness laterally increased, signs attributed by some to retraction of the lung, by others to dilatation of the heart itself. The so-called "hæmic" bruits are commonly, but not invariably, met with; a systolic blowing murmur at the apex and xiphoid cartilage, a bruit of coarser character simulating pericarditic friction at the base. The large arteries of the neck often visibly pulsate, and are the seat of loud murmurs. The jugular hum is seldom absent, and pulsation of the jugular vein is often observed. The pulse is soft and compressible, quick, jerking, and empty.

In all these symptoms there is nothing peculiar or special. They simply denote the presence of an anæmia of pronounced degree, but there is one group of symptoms which occurs with such frequency in those severe forms as to be almost regarded as distinctive of them. I refer to the supervention of hæmorrhages, and here it seems to me important to make some reservations. In several cases hæmorrhages of one kind or another—e.g., epistaxis, menorrhagia, take place in the prodromal period, and antedate the development of the anæmia, which they have much share in producing. Such hæmorrhages must be distinguished from others, often quite as profuse, which follow upon the appearance of the anæmia, and when appearing they add greatly to the intensity of the disease. In a case the particulars of which I shall presently narrate the patient had been anæmic, and progressively so, for years; then supervened profuse menstruation, and finally a severe uterine hæmorrhage which nothing would check till it carried her off. Epistaxis, too, is common as a secondary result. Sometimes cerebral hæmorrhage may ensue and carry off the patient, but this is not common. More frequently towards the close of life petechial and purpuric eruptions occur, and beneath serous membranes, and the dura mater ecchymoses are common, as well as in the substance of mucous membranes. In one very curious case, both in its rapid development, intense character, and as rapid recovery, recently recorded by Lachmann from Riegel's Clinic at Giessen there developed during the progress of the anæmia a considerable tumour in the iliac region, with œdema of the lower limb on that side; from its physical characters and manner of disappearance it was conjectured (and with probable truth) that this swelling was due to a hæmorrhagic effusion beneath the peritoneum. The patient was a young man of nineteen, and the anæmia had developed rapidly with no other exciting cause than heavy walking through snow. That patient, like the great

[6] Die Progressive Perniciöse Anæmie. Zurich, 1877; kindly lent me by Dr. Pye-Smith.

majority of those in whom the anæmia is profound, presented retinal hæmorrhages. These hæmorrhages and the other retinal changes, œdema of the disc, and neuro-retinitis have been described and figured by Drs. S. Mackenzie and Gowers, the latter of whom says:—"The extravasations are often numerous, and more or less striated or flame-shaped from their situation in the layer of nerve-fibres. They are usually most abundant around the optic nerve-entrance. They are frequently associated with white spots and areas, due in part to leucocyte-like cells, in part to degeneration in the disturbed retinal tissues. Occasionally a pale spot may occupy the centre of a small hæmorrhage."[7] Quincke in his 31 recorded cases met with retinal hæmorrhages in all but 7—and notes the rapidity with which they disappear. We cannot, I think, regard them as invariably present; although their existence is a very valuable indication of the advanced stage of the disease. Moreover, as they are not commonly met with in other forms of anæmia, their presence has a certain diagnostic as well as prognostic value; but on the latter point Quincke gives cases which have recovered. Of the 110 cases (which include Quincke's) there are only 39 in which the ophthalmoscopic examination is recorded, and in 30 the hæmorrhages were found, but only 17 were fatal cases, 1 left unrelieved, and no fewer than 11 were regarded as recovered. Of the 9 cases in which these hæmorrhages were *absent*, 6 were known to end fatally. I should not like to lay much stress upon such meagre statistics; especially as it is possible that the traces of previous hæmorrhage might have escaped the observers; but so far as they go, they point to this—that retinal hæmorrhages do not imply a fatal termination, and that their absence does not necessitate a favourable prognosis.

There is usually no enlargement, or to only a slight degree, of either liver or spleen or lymphatic glands, and in only a very few cases has any special tenderness been noted over the bones.

Albuminuria, slight and transient, has been noted; but as a rule the urine is free from this abnormal constituent, of low specific gravity, mostly pale, sometimes high coloured, and deficient in urea and uric acid; but the latter constituent is not diminished in proportion. Chlorides are reduced (Hugenin), but the excretion of phosphoric acid is said to be increased relatively to the nitrogenous matters (Edelfesen). A marked indican reaction was always observed by Hugenin. In one case recorded by Dr. Finny of Dublin[8] the interesting observation was made by Dr. Emerson Reynolds of an appreciable quantity (viz., 0·308 grain in 72 ounces of urine) of iron in the urine sixteen days after treatment by iron had been discontinued.

There remains another symptom of peculiar significance—viz., pyrexia. The charts before you, both from marked cases of the disease—one by Immermann, the other by Quincke—illustrate the irregular course taken by the temperature, and this often without any concomitant changes appreciable in the patient's condition. The former (Chart 1)[9] is that of a single woman aged thirty-one, who was under treatment at Basle from August 23rd, 1872, to September 19th. The case is of some interest, for she had chlorotic symptoms develop when the catamenia began, at the age of seventeen; but apparently recovered completely. The symptoms dated from three weeks before admission, when she became feverish and lost appetite, and anæmic. The anæmia rather rapidly increased, and with it its cardio-vascular signs developed, but no retinal hæmorrhages. An appreciable hemiparesis of the facial muscles and of the tongue made the diagnosis difficult, so that the possibility of ulcerative endocarditis was entertained. Some diarrhœa occurred towards the close of the case. Slight splenic enlargement (no increase of white corpuscles) was also present. The post-mortem examination revealed, in addition to an enlarged firm spleen, only the anæmic condition of organs and fatty changes met with in pernicious anæmia. No brain lesion was found to account for the facial and lingual paresis. The other case (Chart 2, Case 11 in Quincke's series[10]), is that of a woman thirty-three years of age, who had been married nine years and had two children, the younger of whom, aged four, she had suckled for six months. She came into hospital on May 11th, 1876, having for five months suffered from debility, palpitation, and vertigo. She lived in very poor circumstances, and was admitted in an extremely weak and anæmic state. Cardio-vascular signs of anæmia were marked; there were retinal hæmorrhages and œdema, and the blood showed marked variations in the red corpuscles, their numbers being only 143,000 per cubic millimetre (1-38th). Transfusion was performed on May 24th, and the chart shows the course of the temperature for the following days, so that its irregularities must, I suppose, hardly be considered as due to the anæmia alone.* This patient recovered, left the hospital on Aug. 25th, and was seen again in November, looking well-nourished and healthy. The third chart (No. 3) is one where profuse menorrhagia was added to the anæmia, the details of which I propose to give presently. As a rule, the temperature is liable to sudden exacerbations, sometimes reaching remarkable heights (in one of Dr. Finny's cases 106°) from a normal or nearly normal level; or it may have a more or less continuous course, varied by such exacerbations. Exceptionally there is no abnormal rise of temperature throughout. The apparently paradoxical event of fever occurring under conditions of diminished oxygenation—as in anæmia—is discussed by Immermann, who points out that the same obtains in leukhæmia and Hodgkin's disease—between which affections and anæmia there is the common link of poverty in red corpuscles. He shows also that the temperature *rises* after copious venesection; and the instability of temperature in anæmic convalescents is well known. He is inclined, then, to relate the pyrexia to the reduction in red corpuscles below a certain point; not that it is produced by increased metabolism, but by the decay of the tissue elements—their conversion from complex unstable compounds into more stable substances—a conversion which must be accompanied by the setting free of heat, although not requiring increased oxidation. And to

CHART 1. (IMMERMANN.)

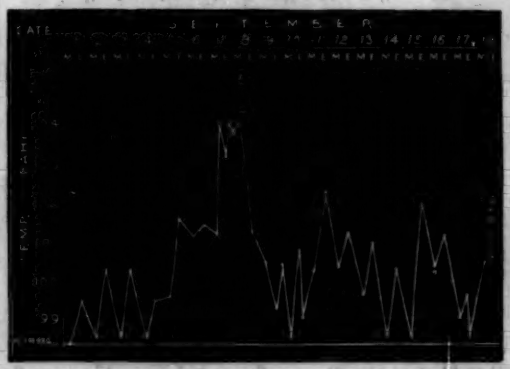
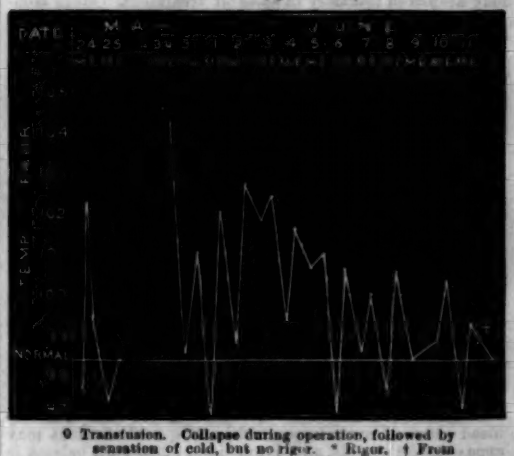


CHART 2. (QUINCKE.)



* Transfusion. Collapse during operation, followed by sensation of cold, but no rigor. * Rigor. † From this date the course was apyrexial.

[7] Manual of Medical Ophthalmology, p. 190.
[8] Brit. Med. Journal, vol. I., p. 44. 1880.
[9] Deutsches Archiv für Klin. Med., xiii., p. 233.
[10] Deutsches Archiv für Klin. Med., xx., p. 1.

this increased heat-production, combined probably with heat-retention, he attributes the "anæmic fever" of these diseases. The blood has, when examined, been found to be altered; but I will speak of that when I come to discuss the pathogeny of the disease.

It is not easy to fix the duration of many cases. The patients themselves cannot tell when their anæmia began, and some have been, they say, pale all their life. Of the series of cases I have collected (viz., 110) I find that in 32 the total duration of symptoms was from one to six months; in 24 from six to twelve months; in 25 from one to two years; and the remaining 12 for periods exceeding two years. As many writers only speak of many weeks or months, such estimation does not include all the cases; and in those cases where the symptoms date back only a few weeks there is often found a history of some antecedent anæmia or a period of variable length of slight languor and ill health.

There can be no doubt that pernicious anæmia is not invariably fatal. Cases of recovery have been recorded by Quincke and others, where all the symptoms have been marked. Dr. Finny gives a striking case, and of the series to which I have so frequently referred no fewer than twenty are regarded by their observers to have recovered. Some of these did recover perhaps permanently, but of this it is not possible to speak with certainty, the last-recorded note often referring to them as being in perfect health; and these were cases which clinically were indistinguishable from those that ran a lethal course; some of them undoubtedly were rescued by prompt transfusion, and others got well under medicinal treatment; but their occurrence is encouraging, the natural tendency of the disease being undoubtedly towards death. Four cases passed away unrelieved; and 4, after an apparent recovery lasting a few weeks or months would relapse into the previous state, to again be temporarily restored to comparative health—once more to relapse without possibility of recovering. The greater number, however, die (86 out of 110) sooner or later (4 of these after temporary recovery and relapse), the mode of death being a simple asthenia and exhaustion, or passage into a comatose condition, or in syncope, or by dyspnœa, or convulsions. To briefly paraphrase Müller's vivid description of the manner in which death approaches: the distress attains a painful intensity, sleep is hindered by the constant beating in the head, the hum and roar in the ears, whilst the faculties became dim and unspeakably dulled. Vertigo and headache grow so severe that even sunlight causes pain. The prostration and weakness are so great that spontaneous effort is annulled, and the slightest movement, even the weight of the bedclothes, is irksome, and the patient groans and sighs in his distress. Now and then, towards the close, the hunger for air grows excessive, complaints are made of the painfulness with which every breath is taken, and relief is begged from this tormenting need. Some become so feeble, and sink into so deep a lethargy, as to cease to take interest in anything, or they lie impassive, breathing deeply and heavily, pale as a waxen figure, motionless as a corpse. Others toss restlessly from side to side, and in their delirium make vain efforts to escape, and then die suddenly from exhaustion. What is this but the picture of death from loss of blood—a loss, not from hæmorrhage, but from impoverishment of the blood in its chief elements?

The post-mortem appearances show extreme pallor of the surface and viscera. There is often a considerable amount of subcutaneous fat, and frequently slight œdema of the lower limbs. Dropsical effusions, never to large amount, occur in the serous sacs. The blood is fluid, thin, and watery, and scanty, pale clots are mingled with the fluid blood in the chambers of the heart. Hæmorrhages are met with in the form of subcutaneous ecchymoses, and similar extravasations beneath the pleura, pericardium, intestinal mucous membrane, and in the pia mater. Sometimes blood effusions of large amount occur in the latter situation. But the brain is pale, bloodless, and "wet" from œdema. The lungs are generally œdematous, and, owing to the fluidity of the blood, appear engorged in their dependent parts, contrasting with the marked anæmia of their other portions. Almost without exception the heart is in a state of fatty degeneration; its walls are pale, flaccid, and friable; the interior of the ventricles, particularly of the left ventricle, show irregular whitish striæ running transversely across the muscular bundles, and especially the papillary muscles, an appearance to which Dr. Quain gave the name of "tabbycat" striation. Microscopically the muscular fibres are pale, and destitute of striation, granular, or loaded with fatty molecules and cell globules of various sizes. Opaque patches of fatty degeneration occur on the mitral valve and stud the lining membrane of the aorta. Fatty degeneration of the intima of the smaller arteries, and even of capillary walls (especially in the retina) are observed, and serve to explain the liability to their rupture and hæmorrhage. Sometimes, but not invariably, there is fatty degeneration of the liver and kidneys. The spleen, lymphatic glands, and supra-renal capsules do not show any changes from the normal (except sometimes slight enlargement of the spleen), but in some cases the bone-marrow is found to be of a red colour and to show microscopical evidence of marked hyperplasia.

Such in brief are the essential features of progressive anæmia.

ON A CASE OF

CAROTID ANEURISM TREATED BY DIGITAL COMPRESSION AND SUBCUTANEOUS INJECTION OF ERGOTIN.

BY EDWARD BELLAMY, F.R.C.S.,

SURGEON TO CHARING-CROSS HOSPITAL, HON. FELLOW OF KING'S COLLEGE, LONDON.

I MAY mention at starting that, although I cannot record an absolute cure in this case, there was such marked and decided improvement that I feel convinced had my patient allowed an extension of the treatment adopted I should have been enabled to add another to the list of successful cases of digital compression. As to the action of the ergotin I am somewhat sceptical.

Mrs. C——, aged sixty-five, stout and florid, was brought to me in March, 1880, by the late Dr. Campbell, of Westbourne-place, with an aneurism at the root of the neck on the right side. After most careful examination, instituted on several occasions, before I began treatment, I made out that the aneurism was situated at the commencement of the right common carotid, and that, as far as my diagnosis went, the innominata was free. The tumour was freely expansile in all directions, was increasing, and the "whirring" noise well heard even without the stethoscope. The internal jugular vein was not compressed, and there was consequently no venous congestion of that side of the head and face. No difficulty in swallowing was complained of, neither had the tumour caused any displacement of the clavicle. There was no dyspnœa. The sac was very thin, and, in one point in particular, felt as though it might give way at any moment, more especially as my patient was an active woman, with a strong will of her own, and accustomed to take a great deal of physical exertion. The skin over the aneurism was movable and not reddened. The pupils on both sides were equal, and responded in the same degree to light. No difference could be detected in the temperature of the two sides of head and face.

Mrs. C—— decidedly objected to any "operation," and would not hear of it; yet, as far as I could judge, both from its position and the ease with which the trunk of the vessel above the tumour could be got at, it would have been a suitable case for distal ligature. Moreover, she would not hear of an anæsthetic for the "rapid" method of pressure. I noticed, however, that Chassaignac's tubercle (transverse process of sixth cervical vertebra) was very distinct, and that the vessel seemed of normal lumen as it passed over it. I therefore determined to try digital pressure on this tubercle, not with such force as to occlude the artery entirely, but to slow and diminish the current through the aneurism.

As Langenbeck, Dutoit, and others had apparently had such good results with the assistance of the injection of the watery extract of ergot, I determined to give it a trial, and before the first day of pressure (March 9th) I injected subcutaneously in the neighbourhood of the tumour two grains, dissolved in one part glycerine to five of alcohol. On March 10th, with the help of my late colleague, Mr. Amphlett, and Messrs. Whitehead, Clarke, and Turton, I commenced digital pressure on the vessel over the tubercle.

The pressures were maintained on the succeeding days as

follows. On those marked with an asterisk the ergotin was used in doses increasing to three and a half grains:—

March 10th	3·5 hours.		March 16th	4·5 hours.	
,, 11th*	3·	,,	,, 17th	2·	,,
,, 12th	3·5	,,	,, 18th	3·	,,
,, 13th*	5·	,,	,, 19th	3·5	,,
,, 14th	3·5	,,	,, 20th	3·5	,,
,, 15th*	3·	,,	,, 21st	3·	,,
			Total	41	hours.

As regards the applications of the pressure they were divided between the morning and the afternoon, an average of 1·5 hours at a time, which was all the patient could bear, on account of pain, which was complained of after a few minutes' pressure on the side of the head corresponding to the aneurism. The skin over the artery at the place where compression was applied was at times protected with a piece of amadou, and fuller's earth was powdered on before the compression commenced. At times, in order not to chafe the skin, pressure was made a little lower down on the distal mouth of the sac. The skin at no time was abraded. On the 15th I left off the ergotin, as it gave rise to very uncomfortable symptoms—sickness, local pain, and general uneasiness. Very soon after commencing pressure, a great difference was noticeable in the character of the pulsation in the tumour; it was much reduced, and the mass was evidently solidifying. On the 19th the bruit was very slight, and on the 21st, the last day, was quite imperceptible. At this date the aneurismal sac seemed perfectly solidified, although it was evident that there was a small channel through it which let blood into the carotid beyond, since it could be felt, though with difficulty. The character of the pulsation in the sac was that of one administered by the blood-current in the innominata, and not a distending one existing in itself. Mrs. C—— now showed signs of fatigue from the pressure, and resolutely refused further treatment. I therefore constructed an apparatus consisting of a hollow air-pad, which I retained over the tubercle by means of a modified Esmarch, but I found my patient would not use it.

Another day or perhaps another two days' pressure might have cured the aneurism. As it was, Mrs. C—— after leaving town began using the arm in various violent ways, and, from what I subsequently heard, undid a good deal of what had been done for her.

The case, though incomplete, is encouraging, and it would seem, with a little more assistance on the patient's part, might have been attended with a most satisfactory result.

Wimpole-street, Cavendish-square.

NOTES ON

VACCINATION AND REVACCINATION.

BY G. E. YARROW, M.D.,

PUBLIC VACCINATOR AND MEDICAL OFFICER TO THE HOLBORN UNION.

AT a time like the present, when an epidemic of small-pox prevails, it is highly necessary that public vaccinators and others should know the full extent to which they can use the chief preventive means without being charged with over-zeal, or, still worse, cupidity. Considering the length of time the Vaccination Acts have been in operation, one is astonished at the number of contradictory statements as to the mode of working them that are continually appearing, apparently upon the best authority, and even the opposition to carrying them out by those who should evidently be among their strongest supporters. With a view to eliciting the opinion of others I should like to refer to a letter which appeared in *The Times* of Feb. 24th, from Mr. Blennerhassett, in which he calls attention to a report of the medical officer of the Lambeth Infirmary, to the effect that he is in the habit of vaccinating infants twenty-four hours old, and to a circular letter of the Local Government Board recommending that the operation be performed on infants born in the workhouses and Poor-law infirmaries within six days of birth. Mr. Blennerhassett says: "Several medical men have, I believe, protested against these arbitrary measures, as fraught with imminent risk and danger to infant life, and many persons will object to them as involving a treatment of the children of the poor in workhouses and infirmaries entirely different from that which is enforced by law, or would be tolerated by public opinion, with respect to the vaccination of the children of the well-to-do classes."

In the first place, I am surprised to read that there exists any medical evidence of "the imminent risk and danger to life" resulting from early vaccination, as for some years I have diligently sought for such evidence, and the result has only been to confirm the experience I gained during the last small-pox epidemic, when I vaccinated between five and six hundred infants under seven days old, and I cannot call to mind one case attended by any untoward result; on the contrary, I found that the local inflammation so frequently seen in infants a few months old was rarely seen in the very young; and this I believe is accounted for by the very limited amount of movement of which the child is capable, and the low degree of sensibility of the skin at this time of life must reduce the pain of the operation and progress of the vesicle to a minimum.

Another point of great moment in reference to the vaccination of pauper children is that during residence in a workhouse they have the care of nurses and mothers which cannot be found after leaving, for even when the parent is a married woman she is usually compelled to seek her livelihood by following some employment which necessitates her absence for several hours at a time, during which the child is left to the tender mercy of a stranger or, as our great modern author puts it, "the giant child in charge of a dwarf nurse."

Many persons will join Mr. Blennerhassett in his lament that the treatment demanded of children born in workhouse infirmaries differs from that required of children of the well-to-do classes. But what alternative is there? The majority of the children are the offspring of unmarried women who leave the institution from ten to twenty days after confinement, and who cannot tell where they may next find a home, much less where the children may be found at three months old. If they are sent out unvaccinated they go forth for the most part to our densely populated localities to form possible foci of future epidemics. That evidence is not wanting to convert this possibility into a probability is demonstrated by an instance which has recently come under my notice.

A. K——, the child of an unmarried woman, born in the City-road workhouse, left at three weeks old. After having lived in several other places, the mother took apartments in one of our most densely populated thoroughfares; here the child was taken with small-pox and died last January, unvaccinated, aged eight months. An elder child belonging to the same woman is now in the small-pox hospital. Two young men residing in the house have been removed to the hospital, one of whom, aged nineteen, has since died. The child of a neighbour has also died unvaccinated (the father of this infant is a potman to a neighbouring beer-house). The child of a fourth family has been lying in a dangerous condition from the same disease (also unvaccinated). The mother of this child was in the habit of going backward and forward to the first case (A. K——) while the child was lying ill, and during this period her children were attending a board-school, from which there are now absent seven other children suffering from small-pox. Now, I think it is fair to assume that if the child A. K—— had been vaccinated three lives would have been spared, thirteen cases of small-pox prevented, and the cost of maintaining these patients at the public expense saved.

At the Holborn Union Infirmary, City-road, it is an instruction not to vaccinate until the children attain the age of six weeks. One hundred and fifty-seven children were born in this institution last year, twenty-four only of whom were operated upon before leaving, and therefore 133 infants were sent out without that protection, or the smallest guarantee of that obedience to the law which is demanded of persons in better circumstances, and which the latter in turn have a right to expect shall not be evaded by those whom they contribute to support.

In response to the circular letter of the Local Government Board, I am informed that the Guardians of the Holborn Union at their last meeting passed a resolution that all children born in the workhouse be vaccinated at fourteen days old, *subject to the consent of the mother*. The practical result of this change will be that instead of 16 per cent. of the children being vaccinated, as heretofore, there will now be none. For even if they remained long enough anyone may perceive how useless it would be to waste time in arguing the point with the class of persons I have described.

On referring to the Consolidated Orders of the Poor-law

Board, under the head of "Duties of the Workhouse Medical Officer," Article 207 directs, among other things, "to vaccinate such of the children as require vaccination;" and a foot-note to this order says: "It not unfrequently arises that the parents of children in a workhouse will not allow the medical officers to vaccinate their children. In answer to an inquiry as to whether the guardians had the power to cause such children to be vaccinated without the consent of the parents in such a case, the Commissioners have stated that they are of opinion that the guardians have, without the permission of the parent, the right to vaccinate any child in their custody, during any danger of contagion from small-pox."

Again, Official Circular, vol. vii., p. 204: "The Poor Law Board have expressed an opinion, that if the guardians and the workhouse medical officer think that *any* child in the workhouse requires vaccination, the medical officer should vaccinate such child notwithstanding the objection of the parent."

My object in quoting the above is to show that the guardians have the power to cause vaccination to be performed on children in workhouses without the consent of the parents, although statements to the contrary are continually being made. That the regulations as to revaccination at the public expense are not generally understood is shown by a report in the LANCET of February 26th, which states that Dr. Barclay, in calling the attention of the Chelsea Vestry to the matter, said that the Local Government Board would not sanction the payment for revaccination of children under fifteen years of age. In your note on the subject you say: "Revaccination may be given at the public expense if the applicant has attained the age of fifteen years, or, if during any immediate danger of small-pox, the age of twelve years, and has not before been successfully vaccinated." Surely, at whatever age vaccination is performed for the first time it is primary, and payable for as such.

The Vaccination Act of 1867 (Sec. 8), after rescinding contracts providing for payment for revaccination then in operation, authorises the Privy Council to make provision for revaccination and for the amount to be paid for the same. The Act of 1871 provides (Sec. 9) that a fee of two shillings and sixpence shall be paid by anyone who does not allow the result of revaccination to be ascertained by the Public Vaccinator or his deputy, and (Sec. 13) provides for revaccination by Poor-law medical officers in houses where they are attending persons suffering from small-pox, but beyond these two references this Act makes absolutely no provision for revaccination. The form of contract does not contain a word on the subject, but a Privy Council letter, dated Feb. 18th, 1868, indicates the extent to which revaccination at the public expense may be given as follows:—"The performance of revaccination by the Public Vaccinator on persons applying to him for that purpose shall be limited in each case by the following conditions:—1. That, so far as the Public Vaccinator can ascertain, the applicant has attained the age of fifteen years, or, if during any immediate danger of small-pox, the age of twelve years, and has not before been successfully revaccinated; and (2) that, in the Public Vaccinator's judgment, the proposed revaccination is not for any sufficient medical reason undesirable; and (3) that the Public Vaccinator can afford vaccine lymph for the purpose without in any degree postponing the claims which are made on him for the performance of primary vaccination in his district."

Even the limitation prescribed in this letter is to be regretted, for the experience gained during the last epidemic, and which is being corroborated by the present outbreak, clearly proves that there are degrees of protection afforded by vaccination, but one mark, unless it be very large, is not as good as five or six, and the admissions of vaccinated persons into our small-pox hospitals are in an inverse ratio to the number of vaccination marks which they possess.

Old-street, E.C.

BRISTOL INFIRMARY.—The report of the committee of this institution, read at the annual meeting on the 23rd ult., was, from a financial point of view, of a decidedly gloomy character. Whilst the expenditure during 1880 was £13,116, the income stood at £11,198, showing a deficiency of £1918, while there was a balance due to the treasurer of £8816. The remark of the president, that it would be a lasting shame to the great and wealthy city of Bristol if the committee had to close any of the wards of the charity, must, we think, be endorsed by his fellow-citizens.

THE PATHOGENY AND TREATMENT OF BRONCHOCELE OR GOITRE.

BY EDWARD WOAKES, M.D. LOND.

(Concluded from page 498.)

CASE 9.—A. S——, a female, aged eighteen, in service at Stratford. The tumour had existed two years. On Dec. 11th, 1877, presented simple goitre; girth 13½ in. At first patient was treated with bromides, iodides, and iron for three months; under this treatment goitre enlarged to 13¾ in. On March 22nd, 1878, she was given fifteen minims of dilute fluoric acid. This in April was increased to thirty minims; swelling disappearing. On June 21st scarcely a trace of enlargement. Time of taking acid three months.

CASE 10.—S. H——, aged twenty-six years, a laundress, living at Islington, had noticed the enlargement four years ago. In September, 1877, patient presented a firm tumour the size of a tennis ball, occupying the isthmus, and a portion of the right lobe of thyroid body. There was deep-seated fluctuation, but from the thickness of the cyst-walls and extreme tenseness of the swelling this was somewhat obscure. It was diagnosed as a fibro-cystic goitre; girth of neck 15½ in. Wishing to test the acid in this phase of the disease, the patient was given fifteen minims in water three times daily, on Sept. 4th. On Sept. 18th the girth was 15 in. On Sept. 25th she was seen by an assistant, who injected the tumour with twenty minims of tincture of iodine. After this a thin clear fluid continued to ooze through the puncture made by the needle during two hours. On Oct. 2nd the girth was reduced to 13½ in., owing to the escape of fluid, and the contracted cyst-wall, about the size of a walnut, was distinctly to be made out. On Nov. 20th scarcely a trace of this remained, and the patient was discharged cured. Time of treatment three months.

Remarks.—The above case has been already alluded to in the opening paragraph of this paper. It is unique in its way, for, though the orginal design of the treatment was frustrated by the inadvertent tapping as detailed, it afforded the unexpected result of a fibro-cystic goitre of considerable size and long duration recovering in three months with no other treatment than that recorded. The puncture and injection were made on the assumption that a fibrous goitre was being dealt with. The iodine could scarcely have affected the result, as, being diffused through the contained fluid of the cyst, it must have escaped immediately with it. It is opposed to general experience for a cyst so tapped not to refill. To the absorptive influence of the acid on the solid portion of the tumour, indicated by its diminution during the three weeks it was taken preceding the tapping, may with fairness be accorded the change in its character, which averted the secretion of fresh fluid, and ended in the rapid disappearance of the disease.

CASE 11.—H. R——, female, married, residing at Chelsea, presented a mixed goitre of one year's duration, Sept. 7th, 1877. Blistering fluid was applied to the swelling, and she was given ten minims of dilute fluoric acid three times a day. On Oct. 5th she was so much better that she did not attend subsequently. This case was of a mild type, and illustrates the advantage of a combination of local treatment with the fluoric acid internally.

CASE 12.—C. K——, a female, aged twenty-eight, married, living at Old Ford, presented on March 12th, 1878, a goitre of five years' duration. The right lobe was of the firm, fibrous, and the left the soft or simple variety. On both sides the enlargement rose to the level of the hyoid bone. Girth 14½ in. At the above date she was given fifteen minims of dilute fluoric acid twice a day. On March 22nd it was increased to twenty minims. On April 9th the girth was 14 in. On April 30th the dose was increased to thirty minims, and on May 21st to forty minims. The girth was now 13½ in. On May 28th the entire tumour had subsided to the normal dimensions of the gland. Time, three months.

CASE 13.—E. B——, female, aged seventeen, on October 23rd, 1877, presented a small recurrent fibrous enlargement of the isthmus. She took fifteen minims of fluoric acid twice a day for three weeks, at the end of which time only a trace of the enlargement remained.

CASE 14.—L. R——, a female, aged twenty-nine, married, living in the Waterloo-road. She had been the subject of

goitre since the age of eighteen. Commenced treatment in July, 1875. Came under the author's care in January, 1877, having received little or no benefit from the previous treatment. The tumour was very firm and large, dipping deeply into the neck, chiefly on the right side. The pressure on the œsophagus was such that she had been unable to swallow solid food for six months. Breathing much impeded; her general health was very bad, and she was excessively weak. She took tincture of perchloride of iron and cod-liver oil up to August, 1877, when a seton was passed perpendicularly through the entire length of the tumour. This was followed by a free discharge of the thin offensively smelling fluid, with very slow diminution of size, and the gland was extremely tender. This state of things continued till February, 1878, when she commenced taking fifteen-minim doses of dilute fluoric acid, which were shortly increased to twenty minims. On March 19th the seton was removed. There was a marked improvement in her health; she could swallow solids. The swelling was now about the size of a hen's egg, and very hard. On April 30th the dose of the acid was increased to thirty minims. The upper wound made by the seton had healed, but the lower one discharged freely. Tumour much smaller and less painful. In July she was taking fifty minims. This dose in September caused inconvenience and was reduced to thirty minims. In November there was a further diminution of the tumour and the acid was increased to forty minims. This dose at times caused gastralgia and faintness, on which account she was directed to intermit the medicine at intervals. In June, 1879, there was still some discharge, though the tumour was reduced so much that it occasioned no inconvenience. She was last seen in the spring of 1880, when a nodule about the dimensions of a filbert was all that remained. She was in robust health, and did not attend subsequently. Time of taking acid, about two years.

CASE 15.—A. D——, youth aged fifteen years, had noticed his neck enlarging for a year previous to January, 1878. He was then living in Berkshire. His mother was goitrous. The tumour extended chiefly vertically, and was of the soft variety. He commenced the acid on January 21st, taking ten minims; this was followed by rapid increase, so that the growth, which was 13½ in., became in the course of a week 14½ in. He continued the acid for six months, attaining a maximum dose of forty minims. During this time the perpendicular dimensions of the swelling diminished, and the growth became normal, but the improvement was very slow. A later report, received about fifteen months from the commencement of treatment, states that the disease had nearly disappeared.

CASE 16.—E. S——, a female, married, aged thirty-three years, living in Soho, presented in February, 1878, a swelling of medium hardness in one lobe, of the size of half a walnut. She began with fifteen minims of dilute fluoric acid, which were shortly increased to thirty-five minims. There was no improvement by August; on the contrary, the growth had enlarged considerably. After this trial of eight months without benefit the acid treatment was relinquished.

CASE 17.—E. H——, a female, aged twenty-six. Seen Sept. 1878. The disease commenced when living in Essex, five years previously; she moved to Hackney three years since, and during this time the enlargement had much increased. She presented a fibrous goitre, chiefly of the right lobe, extending upwards and backwards. She suffered much from dyspepsia, and generally feeble health. Commenced with fifteen minims of dilute acid on Sept. 11th, and on Oct. 9th the dose was increased to thirty minims. This dose caused sickness, and was first reduced, and then discontinued. Recommenced, in January, 1879, with thirty minims, which in February were increased to fifty minims. Again the sickness returned, and the medicine was discontinued finally. The failure was probably in some degree due to the irritable state of the digestive organs. The dimensions were the same as at the commencement.

CASE 18.—A. K——, a male, aged sixteen years, living in the Strand. Seen June, 1878. He presented a mixed goitre of one year's duration; girth 14½ in. Commencing with twenty-five minims of dilute fluoric acid, the dose was increased to sixty minims during the ensuing five months. No improvement occurred during this time. Failed.

CASE 19.—Mr. A——, aged forty, was seen in consultation at the close of 1879. She had a large, firm, fibrous goitre of the entire gland of many years' duration. She was ordered to take half-drachm doses of fluoric acid in water. As she returned to the country I have not seen her since, but received from her medical attendant in October, 1880, a report to the effect that the acid was taken for about six months, and that "her neck has never been so small as now during the eight years I have attended her, notwithstanding she has had iodine, &c. Had she persevered with the fluoric acid I feel sure the result would have been complete."

CASE 20.—S. C——, aged twenty-four, housemaid (Feb. 1880), states the enlargement has existed as long as she can remember. She lived in Essex till the age of fourteen, when she came to London, since which it has increased, especially during the last year. Her mother is goitrous. There is a fibrous goitre of isthmus and right lobe, very firm and large. Feb. 13th, commenced with twenty minims of dilute fluoric acid; Feb. 24th, increased to half drachm doses; March 2nd, to forty minims; March 9th, to fifty minims. Goitre smaller and softer. April 6th, increased to sixty minims; April 29th, to seventy minims. This was continued to September, at which time careful examination revealed only a trace of thickening behind the sterno-mastoid muscle. She did not attend afterwards. Cure.

Harley-street, W.

GONORRHŒA FOLLOWED BY ABDOMINAL TUMOUR; CONTENTS REMOVED BY ASPIRATOR; RECOVERY.

BY WILLIAM ALEXANDER, M.D.,
SURGEON-MAJOR, ARMY MEDICAL DEPARTMENT.

CORPORAL O. L——, aged twenty, a strong healthy young man, but with a phthisical family history, was admitted to hospital on Aug. 18th, 1880, suffering from an attack of gonorrhœa. Ordered a saline cathartic, an alkaline mixture, and to remain in bed.

Aug. 26th: Urethral discharge ceased; the patient feeling unwell, and unable to eat.—27th: Complained of pain in left lumbar region; skin hot; the thermometer in the mouth registering 105°. Was ordered one ounce of diaphoretic mixture with one minim of tincture of aconite every hour, which reduced temperature.—28th: Skin still hot, and tongue furred.—29th: Had an attack of bilious vomiting; temperature 102°; no sore-throat or any pain except what he describes as a "horrid pain" in left lumbar region. Nothing can be detected to account for this condition; hot fomentations give no relief.—30th: Still in the same condition. Ordered a hot bath; diaphoretics with small doses of tincture of aconite.—31st: No improvement; tongue covered with a long white fur; pulse 88, soft and regular; temperature, morning 101°, evening 103·2°.

Sept. 1st: Much the same. Temp. 101°; bowels acted well. From this date till Sept. 6th the condition remained unchanged. A "horrid pain" in left lumbar region, a thickly furred tongue, a pulse varying from 75 to 88, and a temperature of about 101°, rising in the evening to 102° or 103°.—6th: Complained that the pain was extending round the back to the right side. On examining him on this date, detected a small immovable tumour two inches to the left and on a line with umbilicus, having a doughy feeling. Considered it an accumulation of fæces. Ordered castor oil, which was followed by an enema administered by a long tube.—7th: At evening visit found patient moaning and restless, bathed in perspiration, and calling out about the pain in his back; tongue hard and brown. From this date hypodermic injections of morphia had to be given to keep patient quiet.—8th: Asked Mr. J. Appleyard to see the case with me, the tumour being then prominent and immovable and the size of a large orange, and with the same doughy feeling. The nature of the tumour was discussed. There was no bruit, no pulsation; in fact, no indication as to its nature. To make assurance doubly sure, it was decided to clear the bowel by a strong purgative. Castor oil, with croton oil, was administered and followed by enema.—9th: The bowels acted freely, but without effecting any change in the tumour. Temperature, morning 100·6°; evening 102°.—13th: Tongue furred and brown; temperature, morning 100°; evening 102·6°. Detected an obscure feeling of fluctuation in tumour.—14th: A decided feeling of fluctuation observed. Temperature, morning 101·2°; even-

ing 101°.—15th: Very weak; face bathed in perspiration. Pulse 76; temperature 101°. The fluctuation can be felt round the left loin to within three inches of the spine. In consultation with Mr. Appleyard, a small-sized needle was introduced into the most prominent part of the tumour in front and two inches to the left of the umbilicus, and seven ounces of healthy pus withdrawn by aspirator, which relieved him very much.—16th: Much easier. Pulse, morning 80; evening 80; temperature, morning 101·4°; evening 101·4°.—17th: General condition somewhat improved; some tenderness at the seat of puncture. The same needle was again introduced close to the former puncture mark, and seven ounces of healthy pus withdrawn by aspirator.—18th: Complained of great pain at the seat of puncture; to keep a recumbent position.—20th: The tongue cleaner than it has been since the commencement of the disease. Pulse 80; temperature 100°.—23rd: Pulse 80; temperature, morning 100°; evening 99·2°. Removed twenty ounces of healthy pus, inserting the needle close to the seat of the former puncture. The propriety of withdrawing from behind was discussed, but the idea was ultimately abandoned.—25th: Very weak. Pulse 84; temperature 98·4°.—26th: The fluctuation more evident posteriorly than it has been.

Oct. 1st: Twenty-two ounces of healthy pus were removed as before, the needle being withdrawn on the first tinge of blood being observed in the pus, and an abdominal bandage applied. After this, for three days, the temperature was normal, the patient improving in strength. When he was able to move a little it was found that the lower lobe of the left lung was quite consolidated.—5th: Some pain at the seat of puncture of a dragging character; pulse 84. Temperature, morning 98·4°; evening 103°. After this for several days, though feeling quite easy, there was a high evening temperature, varying from 101° to 103°.—11th: General appearance much improved, tongue clean, appetite good, and sleeps well. From this date a gradual and steady improvement set in, the tumour gradually becoming less and less perceptible to the touch, till it gradually disappeared. The health rapidly improved, and the weight increased at the rate of 4 lb. per week.

Dec. 15th: Feels perfectly well. No indication of any tumour in abdomen, and a faint murmur can be detected in the lower lobe of left lung.—21st: Respiratory murmur perfectly re-established at base of left lung. The man states he feels as well as ever he did, and presents all the appearance of good health. Discharged.

Throughout this protracted case the urine was free from albumen, but loaded with urates; and so long as the absorption process was going on there was a considerable rise of evening temperature, which may have been assisted by the rapid development of tissue. The general treatment was on the broad principles of medicine and the free use of stimulants, without which the patient would have sunk at the most critical period. I am greatly indebted to Mr. J. Appleyard, of Bradford, for his kind assistance throughout this remarkable case.

On March 1st the man was in perfect health in every respect.

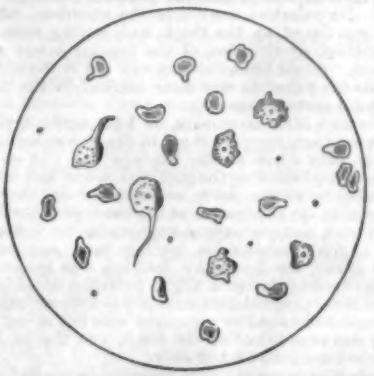
Bradford, Yorks.

THE BLOOD-CELLS IN ANÆMIA.

By W. G. TACEY, L.R.C.P., &c.

THE recent published observations on the appearances of the blood-cells in anæmia by Dr. Bastian, Dr. Cavafy, and others have afforded to many a desire for further information and investigation on this very interesting subject. With this view I venture to offer a few observations upon two cases of anæmia kindly sent to me for examination; both were well marked instances of this condition, and of long duration. The blood in each case was microscopically examined under ⅛ objective immediately after removal from the finger of the patient, and was again examined eight hours afterwards under one of Zeis's high-power objectives. The white corpuscules were very abundant, more than the average size, and exhibited very feeble amœboid alteration in shape; but, after careful watching, I was at length able to distinguish decided pseudopodia in one or two cells, and more than once the prolongations reminded me of the filamentous protrusions of the Amœba princeps or the Actinophrys sol, as figured in Carpenter's "Microscope." If, according to Dr. L. Beale, these are vital movements, and the corpuscule possesses no cell-wall, vibratile filaments can be demonstrated by the aid of modified heat; or again, if, according to Cohnheim and others, the corpuscules are able to pass through the capillary walls (diapedesis), it does not appear so very improbable that these pseudopodia-like changes in the white blood-cells should occur.

With reference to the red corpuscules, considerable variations in the contour of these cells were evident enough; the



general tendency seemed to be towards irregular curvation, and corresponded with the description communicated some few months ago by Dr. Finny and Dr. Churton.

In addition to this irregularity, I noted a slow oscillatory movement of these corpuscules, to all appearance identical with the molecular agitation usually seen in granular solids. If my observation is correct, and this motility is shown to exist, is the motion vital or physical? The red blood-cell is said to have no granular contents; therefore the movement cannot be included in the category of the so-called "Brownian motion."

On this occasion I also examined blood from a case of Bright's disease of some duration, and observed a similar want of uniformity in the outline of the red corpuscules; crenation was conspicuous by its absence. In this case the slow movement was evident, and could be seen several hours after removal from the patient. Here, again, the leucocytes were in abnormal quantity, but not so distinctive in size and number as compared with the above-mentioned cases of anæmia.

Bradford, Yorks.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

POPLITEAL ANEURISM, CURED BY THE APPLICATION OF ESMARCH'S BANDAGE.

(Under the care of Mr. MACNAMARA.)

FOR the following notes we are indebted to Mr. R. Sanderson.

C. T——, aged thirty-two, a fishmonger, who had been in the habit of drinking five or six pints of beer and smoking upwards of half an ounce of tobacco daily, was admitted on July 4th last. His general health had been good until about three weeks before, when, without any assignable cause, he began to feel great pain behind his left knee. His ankle and leg then commenced to swell, and after a day's work he noticed that the veins of the left leg were much distended.

On admission a pulsating tumour was felt in the left popliteal space, about the size of a hen's egg. The pulsation could be nearly stopped by pressure on the femoral artery.

The posterior tibial and dorsal artery of the foot could be felt pulsating.

Next day, at 3 P.M., Mr. Macnamara applied an Esmarch's elastic bandage from the foot to the lower border of the aneurism, and a second round the thigh above the knee, leaving the tumour uncovered. Owing to the patient being unable to bear the pain, ether was administered at 3.17 and continued till 3.55. Digital compression was then applied to the femoral artery, and the Esmarch bandage was removed. No pulsation was felt in the aneurism. At 5 P.M. the leg was flexed on the thigh, and, having been fixed in that position, compression of the femoral artery was discontinued. Slight pulsation was now felt in the aneurism.

On the 6th pulsation was more marked in the aneurism than on the previous evening.

On the 10th Mr. Macnamara, at 1.30, again applied Esmarch's bandage, carrying it up to the lower border of the aneurism, then a web elastic bandage was put on lightly over the knee, including the popliteal space and aneurism, and carried up to the lower one-third of the thigh. Ten minutes after the application of the bandage chloroform was administered, and the patient kept under its influence till 2.30. Digital compression having been applied to the femoral artery, the Esmarch's bandage was removed. On relaxing the compression a slight pulsation could be felt in the aneurism. Digital compression was kept up until 5 P.M. On being discontinued no pulsation was felt in the tumour. The leg was semi-flexed on the thigh, and the patient was kept in bed until the 19th of July.

No pulsation returned in the aneurism, a marked decrease in the size of the tumour could be felt every day, and the patient was discharged from the hospital on the 28th of the month.

He was seen six months after leaving the hospital. No perceptible remains of the aneurism could be detected, and the patient had long since returned to his work.

VICTORIA DOCK DISTRICT DISPENSARY.

SEVEN CONSECUTIVE CASES OF PLEURISY WITH EFFUSION; PARACENTESIS; REMARKS.

(Under the care of Mr. JULIUS CÆSAR.)

CASE 1.—Thos. M——, aged fourteen years, presented himself, complaining of a short, dry cough and shortness of breath. He had been under treatment elsewhere for two months for the same symptoms. On examination the left side of the chest was seen to be much larger than the right and measured one inch and a half more; dulness reached as high as the spine of the scapula behind, and to the third interspace in front. Respiratory murmur, vocal resonance, and vocal fremitus were absent. The heart's apex was pushed over to just inside the right nipple, all the signs of pleuritic effusion being well marked. The aspirator was used and thirty ounces of serum drawn off, when the patient complained of faintness, and the operation was stopped. The faintness soon passed off, and in a week he was able to resume his employment, that of an errand boy.

CASE 2.—A girl, aged seven years, complained of a pain in the right side, short, dry cough, shortness of breath, and feverishness. On examination friction sounds were heard over a small area at the angle of the scapula. A diuretic mixture was ordered and blistering fluid was painted over the side, followed by poultices. In four days more effusion was diagnosed. The same treatment was continued for a week, at the end of which time, the amount of effusion having undergone no diminution, tapping was resorted to, and eight ounces of serum were evacuated. In a week's time she was able to resume her attendance at school.

CASE 3.—A boy, aged three years, complained of pain in the right side, short cough, inability to lie on the affected side, shortness of breath, and feverishness. Examination revealed a small patch of dulness at the angle of the scapula, with diminished respiratory sounds, vocal resonance, and vocal fremitus. Two ounces of serum were drawn off, and in three days he was able to resume attendance at school.

CASE 4.—Male, aged three years, presented himself with a history similar in every respect to Case 3. A diuretic mixture, counter-irritants, and poultices were ordered and continued for ten days, but producing no beneficial effect, aspiration was had recourse to, and five ounces of serum were drawn off. Iodine liniment and a stout flannel roller were applied to the side. This treatment relieved all symptoms very much, but only for a few days, when his breathing became very much embarrassed. The temperature went up to 103°, and he began to have night sweats. Dulness now reached to within three fingers' breadth of the spine of the scapula behind, and to within two of the clavicle in front. All the symptoms pointing to empyema, tapping was determined upon, and fifteen ounces of thick pus evacuated. The iodine liniment and bandage treatment were resumed. The patient made a rapid and complete recovery.

CASE 5.—A tall and very anæmic girl, aged fifteen years, complained of all the usual symptoms, and presented most of the usual signs of pleuritic effusion. As her mother was at first unwilling to consent to tapping, tonics with iodide of potassium were administered internally, and counter-irritants and poultices were applied externally for a fortnight, but without benefit. The mother now consenting, the aspirator was used, and the fluid withdrawn. After this she improved rapidly, and was able to resume her occupation (that of a barmaid) at the end of a fortnight.

CASE 6 was that of a strong, healthy woman, aged twenty-six years, who, on presenting herself for treatment, complained of a stabbing pain just outside the right nipple, slight shortness of breath, short cough, and inability to lie on the affected side. Examination revealed friction sounds at the angle of the scapula, where there was slight dulness, with diminution of respiration sounds, vocal resonance, and vocal fremitus. Diuretic mixture and counter-irritants were ordered at the end of a week. Not having made any improvement she was ordered to wear a stout flannel roller, and to continue the other treatment for a week, at the end of which time, the amount of effusion not having diminished, tapping was resorted to, and twenty-nine ounces of serum withdrawn, after which she made a quick recovery.

CASE 7.—Male, aged twenty-one years. This case was in every particular similar to Case 6, except that a fortnight after the first tapping a second effusion into the same side—the right—took place, necessitating a second use of the aspirator. He was able to resume work in a week's time.

Remarks.—I think these cases are of interest, as showing, as far as things go—1st. The superiority of tapping, at least as regards time, over drugs. 2nd. That early tapping will effect an early cure. 3rd. That ægophony is rather a curiosity, in effusions from simple pleuritis, than otherwise. 4. That all cases of empyema do not require the use of injections for their cure.

LIVERPOOL NORTHERN HOSPITAL.

VESICAL CALCULUS; LATERAL LITHOTOMY; SUBSEQUENT DISCHARGE OF PUS FROM UMBILICUS; RECOVERY.

(Under the care of Mr. CHAUNCY PUZEY.)

THE following case seems exactly similar to one reported by Mr. Bryant, of Guy's Hospital, in THE LANCET for Feb. 26th of this year.

Thomas H——, a delicate, rickety-looking boy, ten years of age, was admitted on Jan. 28th, 1880. He was suffering from frequent painful micturition, the urine being loaded with phosphatic deposits and mucus, and having an alkaline reaction. On sounding, a large, rough calculus was at once detected.

On March 3rd, lateral lithotomy was performed in the ordinary manner, but on attempting the withdrawal of the stone it was found that in consequence of its size, and the small development of the child, extraction could hardly be effected without risk either of unduly bruising the neck of the bladder or of crushing the stone in the forceps. The right side of the prostate was therefore slightly incised with a hernia-knife, and then the calculus was readily extracted. It weighed within a few grains of an ounce, but was large compared with its weight, the main body of the calculus being composed of uric acid thickly coated with loosely arranged layers of phosphatic deposits. The boy suffered no pain or discomfort from the operation, but the wound was a long time in closing; the urine was generally turbid and alkaline, and the surface of the wound often covered with muco-pus and with phosphatic deposit. This state of affairs was to a certain extent successfully combated by daily washing out the bladder (by means of a catheter passed through the wound) with a weak solution of nitric acid. His general condition was decidedly improving. He had been in a miserable state on admission, and it appeared

from his mother's statement that his urine had been thick and frequently ammoniacal for the past five years.

On February 18th some urine was passed per urethram, but the wound was not completely closed until five weeks after the operation. About this time his temperature, which had been very irregular, and generally above normal, began to run still higher, and, according to notes taken by Mr. Batty (one of the house-surgeons), on March 7th the boy complained of tenderness, on pressure, over the hypogastric and right iliac regions; there was also some tenderness in the situation of the right kidney; the urine was thick, and contained pus. On the 13th patient complained of increased tenderness in the parts above-mentioned, aggravated by any movement of the abdominal muscles, as in coughing. The abdomen was distended with flatus, and nausea and headache were complained of. The dyspeptic and tympanitic troubles were relieved by treatment; but the tenderness, swelling, and hardness of the abdomen increased both in degree and extent, being, however, all along much more marked in the right side of the abdomen, and the hardness never extending higher than the umbilicus.

On March 24th it was noted that just below the umbilicus there was a slight soft swelling, the navel itself being somewhat prominent and red. An abscess was evidently pointing here. The hardness remained in the hypogastric and right iliac regions and extended to this soft point at the umbilicus.—25th (9.30 A.M.): Two small opaque vesicles had made their appearance at the umbilicus, and at 2 P.M. they gave way, and about half a teaspoonful of thin pus escaped. Terebene oiled lint was applied to the wound and cæcum poultice over this and the lower part of the abdomen. —26th: Abdominal tenderness less. Abscess had discharged freely during the night. Temperature normal for the first time since March 9th.

From this time the patient steadily improved. The abscess discharged freely, and, *pari passu*, the abdominal tenderness and hardness diminished.

On April 2nd the discharge had ceased, and on the 5th (two months after the operation) the boy was allowed to get up for the first time, and shortly afterwards he was sent to Woolton Convalescent Hospital.

Remarks by Mr. PUZEY.—I ascertained that the boy was in good health two or three months ago, but have not seen him since he left the hospital. I suppose I am right in thinking that the case just recorded is a very rare one. Since it came under my notice I had made many inquiries, but I had not heard of a similar occurrence until I saw the case reported in THE LANCET of Feb. 26th; and it has been to me a subject of speculation as to what might be the explanation of this unusual course of events. Was it the result of some ulceration of the bladder, with slight leakage of urine through the opening, leading to urinary infiltration and abscess in front or at the side of the bladder, and travelling along the anterior to the urachus, to present at the umbilicus? Or might the urinary infiltration and abscess have resulted from the ulceration of some pouch formed by the prolonged pressure of the stone? In my case the history pointed to bladder symptoms noticed for five years before the operation. There is another possible explanation, which occurred to me whilst the boy was under observation, but of which I am more dubious since seeing the suggestion made by Mr. Bryant. In my case it was noticed that there was occasional tenderness in the region of the right kidney, and extending along the ureter to the bladder; it was also noticed that the urine sometimes contained masses of mucus and phosphates, and sometimes a marked quantity of pus, at other times it was comparatively clear. Was it possible that the valvular opening of the right ureter into the bladder was obstructed, giving rise to a saccular dilatation of the ureter just outside the bladder, and that thus the abscess arose? I have omitted to mention that there was no appearance of blood in the urine after the first two or three hours subsequent to the operation. There was no distinct trace of urine in the pus which came from the umbilicus. It will have been observed, as in Mr. Bryant's case, that the onset of the unusual train of events recorded coincided with or immediately followed the healing of the operation wound.

In a case of this sort, where fortunately no post-mortem examination has been called for, one can only record facts and form conjectures. Possibly some contributor to THE LANCET may be reminded of a similar case, where a post-mortem examination has made patent the cause of such a peculiar sequence to the presence of stone in the bladder.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Treatment of Varix.—Extirpation of Larynx for Malignant Disease.—Intra-cranial Disease, involving several Cranial Nerves.

THE ordinary meeting of this Society was held on the 25th ult., J. Lister, Esq., F.R.S., President, in the chair. A case of tabes dorsalis, in which the right sciatic nerve had been stretched three months ago by Mr. Adams, was shown by Dr. Buzzard.

Mr. J. R. A. DOUGLAS read a paper on cases of Varix, treated by a new instrument invented by him for obliterating the veins, called a vein brooch, which produces flat pressure on varicose veins and varicocele by means of a horn or steel spatula, with a grooved needle riveted at the eye end and fastened at the point. It is passed under the vein by a catch like a brooch or safety-pin, gives very little pain, and, unlike the old torsion of wire or silk ligature, produces no constitutional disturbance, but obliterates the vein with certainty and without subcutaneous division. He referred to another extremely simple instrument, invented by A. Baird Douglas. A flat-pointed steel pin passed to the head through a disc of india-rubber, then through the edges, and then through another disc of rubber holding the edges of a wound perfectly and tightly together without other ligature. The extreme tenacity of the rubbers prevents slipping, and can be passed on wire without moving in case of ruptured perineum, vesico-vaginal fistula, &c. Wounds heal by first intention, as the soft rubbers prevent the pin ulcerating out, as wire and silk ligatures do with a knot. These instruments are made by Messrs. Maw, Son, and Thompson. He claimed for the invention simplicity, easy application and removal, readiness of application, little pain or constitutional disturbance, and obliteration of vein. Notes of five cases were read. 1. A police-constable, aged forty-three, unfitted for duty in consequence of weakness and pain in right leg, due to varicose veins. Two brooches were applied under the vein in the thigh, which two days after was divided subcutaneously. The symptoms entirely disappeared. 2. A police-constable aged thirty-eight had diffused varix below knee for six years, and twice ulcerated leg. The saphena vein inside and under knee was large and full, and below a large bunch of varicose veins and open ulcer above ankle. One brooch was passed under large vein, which was not divided. Ulcer healed during the time he was in bed. 3. Man disqualified for militia on account of varicose veins. Operated upon with one brooch, and he was well in thirteen days. 4. Private patient aged forty, suffered with varicose veins and ulcer above ankle. The saphena vein was grasped, and the grooved needle of a horn brooch passed behind it. The brooch was removed the fifth day, and the varix disappeared. 5. A private in the Hussars, the subject of varicocele on left side, preventing him from riding, and unfitting him for service. The bunch of veins was grasped, and two horn and spring brooches passed behind them. They were removed in eight days, and the man recovered completely.—Mr. GOULD observed that in a case of amputation of the hip reported to the Society two years ago he employed suture pins with vulcanite pad at their head, and a soft rubber pad which was passed over the pin when *in situ*, a device similar to that of Mr. Douglas. He had since used them in other cases, and in one case intermediary hæmorrhage was checked by simply readjusting the rubber pad.—The PRESIDENT said the efficacy of the "brooches," which pressed only on one part of a vein in curing extensive varix of the lower limb was striking, and hardly to be anticipated.

Dr. WHIPHAM and Mr. PICK communicated a case of Extirpation of the Larynx for a Growth originally affecting the left ventricular band and vocal cord, which subsequently involved the whole larynx. The patient, a commercial traveller, aged thirty-nine, consulted Dr. Whipham on May 27th, 1876, on account of huskiness and a constant desire "to clear the throat," which had come on suddenly and without apparent cause. He had been previously free from all throat affection, and there was no history of syphilis. The man was very nervous, and it was not till June 8th

that a view of the larynx was obtained. It was then found that a warty-looking growth rather larger than a pea arose from the anterior part of the left ventricular band and vocal cord. After repeated examination and the passage of brushes into the larynx, with a view of preparing the patient for operation, his nervousness was so far under control on July 29th that two small portions were removed by evulsion, with great relief to the huskiness. The case was constantly under observation, but no further operative interference was required until March 3rd, 1877, when three pieces of the tumour (which microscopically presented for the most part the appearance of papilloma, but in which at one or two spots there appeared to be a tendency to the production of epithelial cells) were removed by the forceps. The whole of the warty portion was removed at this time, but the vocal was thickened generally; the voice recovered tone to a great extent. Subsequently, however, it was found necessary to apply the forceps to a recurrence of the growth on several occasions—viz., June 16th, 1877; January 5th, 1878; March 23rd, 1878; April 19th, 1878; December 31st, 1878. Early in 1879 the patient had a severe attack of catarrhal laryngitis, and on June 23rd in that year he complained of having lately suffered from great dyspnœa, with tenderness over the thyroid cartilage and some external swelling in this situation. He was admitted into St. George's, and in the course of the following six weeks several pieces of the tumour were removed. Again in October, 1879, a large piece was taken from the larynx. By March, 1880, a great change had occurred in the state of the parts; the growth involved the whole ventricular band and vocal cord; the left ala of the thyroid cartilage was pushed outwards, and was tender; dyspnœa being at times urgent. Towards the end of April the dyspnœa threatened suffocation, and Mr. Pick, after examining the patient, performed tracheotomy, from which the recovery was perfect. During the next six months the disease progressed rapidly, the whole larynx being involved by the middle of October, when a large lobulated mass was felt in the position of the left ala of the thyroid cartilage. In the early part of November, 1880, some hæmorrhage occurred through the tube, and at the end of the year he was readmitted into hospital with a view to the performance of some operation. Shortly after his readmission this hæmorrhage recurred rather freely. After consultation with his colleagues on the previous day, Mr. Pick proceeded to extirpate the larynx. Having introduced a tampon cannula, Mr. Pick made an incision on January 16th, 1881, two and a half inches in length in the median line of the neck, and a second incision at right angles to it across the middle of the thyroid cartilage. On reflecting the skin the growth was found to involve the left ala of the cartilage. The thyroid cartilage was then divided vertically in the median line, and the two halves separated, when the whole larynx was found occluded by the growth. The left ala was removed, and subsequently the right also. The cricoid, with the remains of the arytenoids, were then freed from their attachments, and removed, and finally the epiglottis, which was involved in the disease, was cut away. The wound was carefully explored, and all traces of the growth as far as possible were removed. No vessel required ligature. The operation occupied three-quarters of an hour, and the patient was not much exhausted at its close. The wound was plugged with sponges. Slight hæmorrhage occurred after the operation, which was arrested by the introduction of an additional sponge. Nutrient enemata were ordered every four hours, and for the first two days the patient's progress was satisfactory. On the third day, however, his temperature rose to 103·2° F., and his skin became dry; his pulse ran up to 142. On the fourth day he complained of severe pain about the cnaiform cartilage; his expression became anxious. Rapid exhaustion set in, and he died on the morning of the fifth day after the operation. At the autopsy, right pleurisy and pericarditis, presumably pyæmic, were the chief lesions found. Among the many points of interest in the case, the following were brought before the notice of the Society:—1st. That for three years the microscopic appearances of the growth were for the most part those of papilloma. 2nd. That the duration of the disease (four years) was rather in favour of its having been an innocent growth in the earlier stages, although microscopic examination showed that, even at the onset, there was, in one or two places, a tendency to epithelial proliferation. 3rd. That the above facts, and the limitation of the growth to the larynx, were favourable to the success of the operation of extirpation. 4th. That if the operation had been undertaken as soon as the malignant aspect of the disease became manifest success might have been the result. 5th. That the plan of dividing the thyroid cartilage and removing each half separately is preferable to the method adopted by Dr. Foulis of removing the larynx entire, and for these reasons: (1) that by separation of the alæ a good view of the extent of the disease is obtained at an early period of the operation; and (2) there appears to be less danger of wounding important structures.—Dr. SÉMON was gratified that Mr. Pick had found his modification of Trendlenberg's tampon cannula useful; and he drew attention to the liability to dyspnœa being caused by over-inflation of the tampon. This occurred in a case of thyrotomy he had recorded, and was attributed by him to pressure upon the tracheal branches of the vagus nerve. Similar attacks occurred in two cases by Dr. Bosworth, and also in one by an Italian surgeon, and another by an English surgeon. The dyspnœa at once ceased on allowing some of the air to escape from the tampon. In Mr. Pick's case there could be no doubt that the disease was epitheliomatous at the time of operation. Extirpation of the larynx was not necessary for papillomata, which could be removed by endo-laryngeal operation or by thyrotomy. He believed that for a simple growth to become malignant there must be a constitutional tendency to malignant degeneration, which would manifest itself whether the growth had been interfered with or not. To show what may be done by persistent endo-laryngeal operation, obviating recourse to the formidable operation of extirpation, he quoted a case recently published in the *Berlin. Klin. Wochenschrift*. It was a child, eleven years old, in whom a papillomatous growth had been removed by thyrotomy, subthyroid laryngotomy, and thyrotomy again with invariable recurrence; extirpation of the larynx was advised but declined; and for six months Dr. Bucher persistently treated it by endo-laryngeal methods, so that he succeeded in completely removing the growth. Fifteen months later the child was free from the growth. In fact, papillomatous disease does not give any indication for extirpation of the larynx.—Mr. PICK agreed that extirpation was not called for so long as the growth could be removed by the forceps. In this case it would have been better to remove the ala of the thyroid when the tracheotomy was done, for the growth had already perforated the cartilage.

Mr. SPENCER WATSON read a case of Intra-cranial Disease involving several Cranial Nerves. A married woman thirty-six years of age, who had suffered from miscarriages and a severe flooding after a confinement, was seized with severe neuralgic pain of the left side of the face, with loss of sensation in the same side of the face and ptosis, loss of smell, taste, and hearing of the same side. After the symptoms had persisted seven months twenty-grain doses of iodide of potassium were given three times a day, with the effect of rapidly relieving the pain in the parts and restoring smell, taste, and hearing, and partially restoring the paralysed upper lid and the paralysed ocular muscles. There was a relapse after the relief had persisted for more than a month, and the condition of the patient was still unsatisfactory at the last time of seeing her. The amount of iodide of potassium taken in a continuous course of thirty-one days' duration was between three and a half and four ounces.—Dr. BUZZARD said the case was one not uncommon in syphilis, where frequently several cranial nerves become involved. Sometimes with peripheral affection of the fifth there is also affection of the portio dura. The ulceration of the cornea in such cases is attributed by some to disturbed trophic influence; by others to the irritation of foreign bodies on the insensitive conjunctiva. In this case the cornea was not ulcerated, and it was interesting to find that the third nerve was paralysed, the ptosis probably preserving the cornea from irritation. He thought the iodide should be pushed, in spite of symptoms of iodism, and suggested that mercury should also be given. There seemed no doubt of the syphilitic nature of the disease.—Dr. WHIPHAM mentioned that iodism may often be prevented by freely diluting the mixture containing the iodide.—The PRESIDENT thought the iodide should be pushed farther. He was not aware of the fact stated by Dr. Whipham, and would like to know if the large doses of the drug acted when diluted as beneficially as without dilution.—Dr. WHIPHAM said that so far as his experience went the same beneficial effects were produced without the ill effects of iodism.—Dr. POWELL corroborated Dr. Whipham's statement. The value of diluting the iodide

was taught many years ago by Dr. Hare; and his own (Dr. Powell's) impression was that it increased the efficacy of the salt.—Dr. CROCKER said that the troublesome coryza could be controlled by small doses of strychnia, a fact pointed out to him by Dr. Gilchrist. That arsenic will control the eruptions due to iodism was well known.—Mr. SPENCER WATSON said that he intended to continue the treatment, and to again give mercury (which was for a time given). The relief from pain produced by the iodide was very great. He believed corneal ulceration in paralysis of the fifth was simply due to irritation by foreign bodies; it could be prevented by simply keeping the eyelid closed, and in this case the ptosis acted beneficially. At the same time the turbidity of the vitreous pointed to trophic disturbance.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Cases of Disease of the Nose.—Traumatic Rupture of the Perineum.—Endocarditis with Embolism.—Opaque Optic Nerve Fibres.

AT the meeting on March 21st, Dr. Broadbent, President, in the chair,

Mr. SPENCER WATSON read notes of two cases of Disease of the Nose, which he could not place under any ordinary category. The first was that of a man who had suffered from pain in the nose since 1869. He was married, and had a family, but contracted syphilis twenty years ago. The nose was red as if from acne, but the nostrils were free in front and behind; the sense of smell was good, but the throat and fauces were congested. There were paroxysms of pain, so severe that Mr. Watson at first thought he had to deal with a case of hypochondriasis. There was no periostitis. The syphilitic history led to the prescription of iodide of potassium in full doses, and a speedy cure resulted. The second case was that of a clergyman, who for the two previous years had been subject to congestion and redness of the nose. There was no history of gout or rheumatism. The patient had lived for years in Demerara, and was of regular habits. He suffered, however, from habitual constipation. The attacks of redness came on at uncertain times. The administration of Carlsbad salts, and the application of ice to the nose did good; dry cupping was useful, and tobacco-snuffing lent considerable aid. Dr. Graves reports a somewhat similar case, not regarded as of gouty nature. He thought it was of a nervous character, and resembled hysteria.—The PRESIDENT regarded the first case as of undoubtedly syphilitic origin; the second was most probably a reflex nervous phenomenon.—Dr. ROUTH thought the second case comparable to one of congestion, such as is frequently followed by copious nasal discharges, of which he had seen several instances.—Mr. ED. OWEN thought the second case dependent on the chronic constipation; it might be simply of dyspeptic origin. He referred to the fact of nasal irritation in children suffering from intestinal worms.—Mr. WATSON, in reply, said that the snuff-taking produced no irritation, but simply kept up a slight discharge of mucus, which, in the dry condition, gave relief. The intestinal condition may have had some influence.

Dr. WYNN WILLIAMS read notes of a case of Traumatic Rupture of the Perineum in a girl aged five years, who had been impaled on the broken bar of an iron bedstead. The sphincter ani was completely torn through, and the mucous membrane was prolapsed. He proceeded at once to operative measures, paring the edges of the wound and performing the ordinary operation for rupture of the perineum. The result was perfect, and the girl, who is now some years older, has perfect control over the sphincter. In reply to Mr. Gould, he said that others thought she would have recovered the use of the sphincter, as she grew older, without operation.

Dr. GILBART SMITH read notes of a case of Acute Endocarditis with Embolism. F. R——, aged fourteen, admitted into the London Hospital on Feb. 8th. At the age of twelve she had rheumatic fever, but up to one month before admission was quite well, except for headache, which came on at intervals, with palpitation on exertion. One month before admission she began to suffer from vomiting after meals and headache; so that she was compelled to take to her bed fourteen days before. Five days previously she began to see badly, had difficulty in opening and shutting her eyes, and a profuse watery discharge, with scalding, came on. When admitted she was poorly nourished and suffered from conjunctivitis. The heart's apex beat in the fifth interspace below the nipple; there was a systolic bruit at apex, and a double basic murmur. Temperature 101·5°; pulse 96; respiration 36; tongue dry and furred; sordes on lips. During her stay in hospital her mental condition varied; she was generally irrational and delirious, with insomnia and headache. There was rapid emaciation; great pain in legs, preceded by blocking first of the vessels of right leg then of left. The left foot became gangrenous, and petechiæ occurred on the legs and lower part of abdomen. The eyeballs became prominent, and embolism of retinal vessels was also inferred, though this could not be verified owing to the condition of the media. There was increase of the splenic area and tenderness in that region. The pulse towards the end became very rapid, from 132 to 162; respiration frequent, generally about 48. Temperature fluctuated between 105·6° and 99°; generally being 101° to 104°. Albuminuria appeared ten days before death.—Post-mortem: Great wasting; gangrene of left foot; lungs normal; heart enlarged; large masses of vegetations springing from bases of aortic valves, extending over anterior mitral cusp; infarctions of spleen and left kidney; right kidney and liver congested; œdema of brain, wasting of convolutions. Dr. Gilbart Smith raised the question whether the symptoms were not those of a septicæmia rather than rheumatism, and pointed out that the form of verrucose endocarditis here present was not to be confounded with ulcerative or diphtheritic endocarditis, which is more usually accompanied by infective processes, leading to a pyæmic or typhoid condition. The inflammation of the eyes, with the prominence of the eyeballs, were considered to be due to embolism of the ophthalmic arteries, and consequent engorged state of the veins. Mr. Adams considered the ophthalmitis to be essentially pyæmic. The plugging of the arteries of the lower limbs was attributed to embolism, aided by the cardiac weakness; and the diagnostic significance of retinal and cutaneous hæmorrhages in valvular disease, with varying murmurs, was also alluded to.—Dr. MACDONAGH inquired if the case was one of endocarditis with rheumatic symptoms.—Dr. DOWSE asked if any thrombi were met with in the pulmonary artery or heart.—The PRESIDENT remarked, that in ulcerative endocarditis there would be no large embolisms, but more probably capillary emboli. The ophthalmic condition was of some interest. Had there been any variation in the pitch of the cardiac sounds?—Dr. GILBART SMITH, in reply, said that there was a distinct history of rheumatic fever and heart disease two years ago. He thought the emboli started from a chronic endocarditis, and, reaching the eye, had initiated a general septicæmia with acute endocarditis. The variation in the murmurs was a great help in diagnosis.

Mr. WORDSWORTH exhibited a remarkable case of Opaque Optic Nerve Fibres in a boy of about five years of age. The condition was confined to the left eye, and was of course congenital. On entering the eye the nerve fibres expanded into a dense white membrane, which completely surrounded the optic disc and extended irregularly in the fundis oculi for a distance of several diameters of the optic disc, and gradually shaded off into the transparent retina. Only slight indications of the limits of the optic entrance were perceptible, and the vessels passing through the nerve became obscured by the expanded fibre on leaving the limits of the nerve area, and were completely hidden until they emerged beyond the opaque fibre. The eye was myopic one-third to one-fourth; sight was very imperfect, and the "blind spot" of large size.

The Society then adjourned.

CAMBRIDGE MEDICAL SOCIETY.

Terebene as an application to Wounds.—Truss padded with India-rubber Sponge.—Large Gall-stone; how it may have escaped from Gall-bladder.—Scirrhous Cancer of the Male Breast; Eczema of the Nipple.

AT the meeting of the Society on Friday, March 4th, Mr. James Carter, F.R.C.S., Vice-President, in the chair,

Mr. STEAR advocated the Use of a Mixture of Terebene and Olive Oil in preference to Carbolised Oil as an application to Wounds, and more especially in cases of cancer and

other foul-smelling sores. It was hardly inferior to carbolic acid as a disinfectant and deodoriser, and it had the advantage of being non-poisonous, of possessing an ozonising property, and of being pleasant to the smell. He showed also a "Salmon and Ody" truss, the pad of which was fitted with a covering of india-rubber sponge. The idea was taken from the practice of saddlers to use the same substance as a padding for riding-saddles and horse-collars, and it was found to prevent chafing.

Dr. LATHAM showed the broken pieces of a large Gall-stone, originally measuring 1½ in. in diameter, globular in shape, and weighing 104 grains, which had been passed along with a small facetted gall-stone, by a woman in the hospital, admitted for obstruction of the bowels. There was no history of pain arising from gall-stones passing into the bowel. The large globular mass seemed to be too large to have passed by the cyst and common bile-duct. Thinking that it might be an entolith, he had examined a portion of it for cholestearin (in the usual way, by extracting with absolute alcohol and filtering when hot), and he showed a test-tube containing a quantity of cholestearin scales, and the same under the microscope. The outer shell of the stone contained a considerable quantity of brown colour, and a part of the central mass was obviously crystalline. His theory was that it was a true gall-stone; that it had passed by a fistulous opening through the fundus of the gall-bladder into the adherent intestine (transverse colon); and that the chronic peritoneal inflammation which would have occurred in due course was the cause of the obstruction of the bowels.

Dr. HUMPHRY showed a large Cancer of the Breast, of typical scirrhous texture, which he had removed, along with a cluster of scirrhous axillary glands, from a man aged sixty-three. The tumour was a large indurated, heavy mass, three inches in diameter; its thickness, after removal, was found to be upwards of an inch and a half. The nipple corresponded to the centre of it, and was retracted, and the skin was adherent all round. Indurated lymphatic glands in the axilla could be felt. The patient had observed the tumour for about one year; no history of injury. Eczema of the nipple had existed both on the affected side and on the sound breast; the patient spoke of it as "scabbing about the nipple," which he picked with his fingers. His colleague, Mr. Wherry, had, at a former period, seen the eczema on both nipples; that on the sound side looked as if an excess of secretion had escaped and dried on the skin. The formation of cancer in the male breast was itself a puzzle. It was remarkable that the male breast should persist at all, and its chief interest to us is that now and then it becomes the seat of cancer. As to the operation, he had removed the tumour freely; there was much hæmorrhage, and feverish symptoms followed, but the patient was now doing well. He thought it a good rule, if there were no nodules in the adjacent skin, to make the incision go as wide of the cancer as possible. In this case there was a large wound, and he would formerly have allowed a large suppurating and granulating surface to form, in the belief that such slow healing reduced the liability to return of the disease. But more recently he had himself adopted the practice of Listerism, under which the wounds healed quickly, and it had not appeared that the liability to recurrence was greater after rapid healing than after suppuration and granulation. It was said that surgeons, as they advanced in life, became more reluctant to remove cancers, but he had become on the whole more willing to remove them, and to remove them freely. The operation was now attended with little or no pain, and with little danger, and if there was a fair prospect of removing the entire visibly diseased structure, he thought the operation should always be undertaken.—Dr. CREIGHTON, referring to the occurrence of cancer in the male breast, remarked that there were hardly any observations on the extent to which the structure of the breast persisted in the male after puberty. Its extent probably varied very much among individuals, as, indeed, the casual observations of the dissecting-room showed; and he was inclined to think that a predisposing cause of the formation of a cancer in the male breast was the persistence of a considerable amount (beyond the average) of breast structure and of corresponding functional tendencies.

Mr. SHANN brought forward a case of Floating Kidney in a woman.

Mr. WHERRY showed a fresh specimen of Scrofulous Testicle removed by operation.

Reviews and Notices of Books.

The Student's Guide to the Diseases of Women. By A. L. GALABIN, M.D. London: J. and A. Churchill.

WHEN reviewing the first edition of this work we pointed out its many excellences as well as some features that appeared to us to detract from its value. We can say that in the present edition the former have been increased and the latter lessened. In the present issue additions of new material and modifications in what was in the previous one have been made. Among the modifications we find less heroic treatment advised for certain cases of disordered function and imperfect development; even the treatment now recommended, however, is, in our view, far too active and frequent; for although we have no doubt that Dr. Galabin has a full and lively sense of the fact that there are cases of imperfect development and disordered function which it would be almost if not quite criminal to treat by local means, yet he does not convey this fact to the reader with that degree of clearness which is called for. Among the additions we notice the portion treating of the relative importance of displacements. The author having stated that there are two opposite views held with regard to this subject, says:—"The truth would seem to lie in the mean between these extreme opinions." The process of "splitting the difference" or "striking the mean" may be a good rough-and-ready way of arriving at an approximation to the truth in questions surrounded by passion and prejudice, but when the question is one of scientific evidence the method does not apply. Had Dr. Galabin given a brief summary of the evidence put forward for and against the importance of displacements, he would have done the student a permanent service, and had he, in addition, pointed out what is necessary to be done in order to establish the importance of displacements upon a solid basis, he would have armed the student with a means of estimating for himself the value of evidence whose quantity, whatever its quality may be, is almost measureless. We trust that in the next edition Dr. Galabin will see his way to carry out the above suggestion, and thereby enhance the worth of his already valuable work.

The Cure of Rupture, Reducible and Irreducible, also of Varicocele and Hydrocele, by New Methods. By GEORGE HEATON, M.D. Arranged and Edited by J. HENRY DAVENPORT, A.M., M.D. Harvard. Boston: H. O. Houghton and Co.

SOME weeks ago we noticed a book on this same subject by Dr. J. H. Warren, who indeed merely followed in the footsteps of Dr. Heaton. It will be remembered by some of our readers that Dr. Heaton visited this country several years ago, and demonstrated his operation for the radical cure of hernia. But shortly after his return to America he brought considerable discredit upon himself by keeping his practice secret, and it was only just before his death that he made it public. His operation for the cure of reducible hernia is fully described in the work before us. It consisted in injecting extract of quercus alba into the hernial canal outside the peritoneal sac, the object being to excite a very mild degree of inflammation or "irritation" in the tendons and fasciæ around the sac which form the barrier to the production of hernia, and so lead to their contraction. It is stated that, although the operation had been practised "many hundreds of times," it has never been attended with fatal results or complications exciting anxiety, and that when it fails to cure it usually gives such relief that a light simple truss is sufficient for the prevention of the recurrence of the hernial protrusion. A hundred and forty cases are briefly recorded in support of these assertions. Dr. Heaton was also in the habit of treating irreducible hernia:

with more energy than is customary, for he appears to have always attempted to make them reducible. If taxis, repeated, and aided by position and anæsthetics, failed, he either broke down the adhesions with his finger pressed in through the skin, or enlarged the rings by a tenotome, or, as a last resource, opened the sac, freely divided adhesions, removed omentum, and reduced the intestine. Several cases thus treated are recorded, and Dr. Heaton asserts that these measures also never lead to a fatal result. Probably this subject will excite more sympathy than that of the cure of hernia by astringent injection, and it certainly is one that deserves more general attention than it has hitherto received. It is probable that the mortality attending operations upon strangulated hernia and inflamed peritoneum has prevented the adoption of measures in a great degree devoid of the special dangers of the former. Among others, Mr. Lister has recorded cases of irreducible hernia cured by operation, and we doubt not that this will be one of the most useful applications of intra-peritoneal surgery.

Transcendental Physics. An Account of Experimental Investigations from the Scientific Treatises of J. C. F. ZÖLLNER. Translated by C. C. MASSEY. London: W. H. Harrison. 1880.

Psychic Facts. A Selection from the Writings of various Authors on Psychical Phenomena. Edited by W. H. HARRISON. London: W. H. Harrison. 1880.

Animal Magnetism. Physiological Observations by RUDOLF HEIDENHAIN, M.D. Translated from the Fourth German Edition by L. C. Wooldridge, B.Sc. London: C. Kegan Paul and Co. 1880.

IT must not be supposed that the works above named are equally deserving of thoughtful study. The first two are in their way curiosities of literature, and of that pseudo-philosophy which has sprung up from the vagaries of the so-called spiritualist. The "experimental investigations" of Dr. Zöllner are chiefly directed to attempt a physical explanation of the clever legerdemain of the notorious Dr. Slade, who is held up for pity as one persecuted by the narrow spite of English scientists, to find more willing investigators in Germany and Russia. This book and the one next named may be said to embody the chief doctrines of "psychic force."

It is hardly fair, perhaps, to include Professor Heidenhain's *brochure* with the foregoing, for it is a work of a wholly different stamp, dealing with a different though cognate subject. The facts of hypnotism, spontaneous or induced, are daily receiving more attention than was vouchsafed to them a generation ago, when they were so mingled with deceit and trickery as to be for a time obscured and shunned. Professor Heidenhain is well known as an accomplished physiologist, and his writings have no need of the *imprimatur* of Mr. Romanes, who has edited this translation of his lecture, and who has already made known the results of Professor Heidenhain's work in an article in the *Nineteenth Century*. The author believes that the hypothesis that the "cause of the phenomena of hypnotism lies in the inhibition of the activity of the ganglia cells of the cerebral cortex" is a tenable one, "such inhibition being brought about by gentle prolonged stimulation of the sensory nerves of the face or of the auditory or optic nerve"; and he maintains that such an explanation has only been possible since our knowledge of nerve-function has been perfected by means of experimental physiology. In a recent contribution to our columns M. Richet has spoken in the same sense, and has advocated the further study of hypnotic phenomena as a means of increasing our knowledge of the mechanism of cerebral action.

A SALESMAN of Derby has been fined £130 and costs for exposing for sale meat that was unfit for human food.

THE CORNU AND CHOROID PLEXUS OF THE FOURTH VENTRICLE OF THE BRAIN.

To the Editor of THE LANCET.

SIR,—Whilst reading the report in your valuable journal of Dr. Moxon's highly interesting Croonian Lecture on the "Influence of the Circulation on the Nervous System," my attention was arrested by the following statement:—"Our anatomical works all speak of a sort of pouch from the side of the fourth ventricle, but none of them point out that this pouch is stuffed very full of tufts of bloodvessels in the form of choroid plexus." This is clearly an oversight on the part of the learned lecturer; for instance, distinct mention is made of this vascular fringe in Quain's Anatomy, vol. ii., p. 513, eighth edition; also by Professor Turner in his Introduction to Human Anatomy (p. 261). The statement is to this effect: Key and Retzius have recently described two additional communications, one on each side of the anterior part of the floor of the ventricle. Through these openings *vascular folds* of pia mater, named the *choroid plexuses* of the fourth ventricle, enter its cavity. These openings and choroid plexuses are well known to the students of the Middlesex Hospital, and are constantly demonstrated to them in the dissecting-room; indeed, there is a preparation to show this very point in the museum of the hospital. With regard to the vascularity of this plexus I was totally ignorant until the summer of 1879. At that time I was fortunate enough to obtain a successful injection of its villi in a fœtus at term. The injection was performed before the natural heat had abated, and proved, as one suspected, that the plexus was intensely vascular. I have still a specimen of it in my possession; it shows, in addition to the vessels, the delicate hyaline investment which covers the tuft of the capillaries like a mantle. The notion that I had fallen upon something novel was soon dispelled, for upon going more minutely into the literature of the subject the statements in Quain and Turner's works were quite sufficient to set the thing at rest. I should not have thought anything more about making this matter public but for the observation of Dr. Moxon with regard to them in his lecture.

I am, Sir, yours truly,

J. B. SUTTON,
Assistant Demonstrator of Anatomy,
March 29th, 1881. Middlesex Hospital.

"HOMŒOPATHY OR—WHAT?"

To the Editor of THE LANCET.

SIR,—We, both Liberals and Conservatives, have heard with great regret of the illness of Lord Beaconsfield, and I am sure most of us have observed with pleasure that the Queen had suggested that further advice should be called in. This suggestion, as we know, was carried out, and the skill of Dr. Quain was soon placed at the disposal of the Earl. In the account given in to-day's *Times* of the consultation between the two eminent advisers of his lordship, it states, that "Dr. Quain expressed his approval of the treatment adopted by Dr. Kidd." Now, Sir, I was always under the impression that Dr. Kidd was a homœopath—indeed, the leading spirit of homœopathy in London; and that Dr. Quain was an allopath. How, then, are we to reconcile this agreement in treatment? "Is Saul also among the prophets?" Has Dr. Kidd altered the tenour of his ways, and gone over to the old school? Or does he *profess* homœopathy and *practise* allopathy? Or does he reserve homœopathy for his less eminent patients? Or has Dr. Quain—but no, the thought is too dreadful!

Yours faithfully,

A. GEORGE RATEMAN (Allopath).
Canonbury-lane, March 30th, 1881.

To the Editor of THE LANCET.

SIR,—In to-day's paper I see that Dr. Quain is reported to have met Dr. Kidd in consultation on the case of Lord Beaconsfield, and, further, that he approved of the latter's treatment. Is Dr. Quain aware that Dr. Kidd's name is in the Homœopathic Directory for this year, and that he was lately on the Council of the London School of Homœopathy? And what treatment from a professed homœopath could Dr. Quain endorse?—I am, Sir, yours obediently,

March 30th, 1881 JUNIUS.

THE LANCET.

LONDON: SATURDAY, APRIL 2, 1881.

THOSE who watch the progress of medical science can hardly fail to observe how it is influenced by the realistic tendency of modern thought, and to see that, largely under the guidance of German teaching, it has become essentially objective. General views, however well supported by analogy and logical deduction, have little value in comparison with that which is demonstrable, as if morbid anatomy, the scalpel, and the microscope were the only agents by which the problems of disease could be solved. Humoralism has given place to solidism, and the prevailing tendency is to localisation of disease at the expense of the importance once so freely ascribed to "blood conditions," "constitutional states," and "diatheses." To the older members of the profession it is indeed novel to hear, for instance, that cancer is a local affection, with "perhaps" and "in part" a constitutional origin, and that, as we are now taught, the diseased lung in a considerable proportion of the cases of phthisis is no longer to be regarded as the local outcome of a morbid constitutional state or diathesis, but as essentially a local disease, only differing from ordinary pneumonia in the fact that it involves the alveolar walls of the air cells as well as their cavities, and that we should regard the general symptoms and constitutional consequences as but the result of this local disease.

Under these circumstances it may be well for a moment to recall attention to the typical morbid states of the blood and of its germs, and at the same time see how far this modern pathology tends to support or set aside the germ theory generally. We would premise that by blood we mean not only the actual circulating blood, but its tributaries also, and that by the term "germ theory," which has, we consider, lost much in interest and attention by the various significations with which it has been employed, we mean the affirmation that several morbid states of the blood and many diseases of structure are caused by the action of germs: and as in some instances these are introduced from without, and are therefore foreign to the body they invade, whilst in others there is reason to believe that they are modifications of the organisms of the body itself, we shall treat of them separately, as respectively "disease germs" and "diseased germs."

The simplest and most familiar examples of blood diseases induced by the introduction of germs from without are supplied by the exanthemata. It is unnecessary to offer proofs that these are blood diseases and propagated by infection or contagion, whilst investigation has now demonstrated that the contagium in each, on its introduction, produces the particular disease of which it is the special cause, with all its specific morbid phenomena; that whilst so doing, and in its passage through the body, it manifests vital characters, especially that it increases and multiplies with intense fecundity; that it does not pass with fluid on filtering, and must therefore be particulate—in fact, that it must be a germ, and eminently endowed with germinal power.

Equally striking — in many respects more striking — examples are afforded by the allied specific fevers, inasmuch as in these generally more distinct evidence of the actual presence of the germs in the blood is shown, in that the disease itself is inoculable by blood of an infected subject. We take the exanthemata and specific fevers as our first examples, however, not simply because they and their phenomena are so familiar to us, and they have therefore received special notice and been the subjects of unusual observation and research, but because they afford us the opportunity of pointing out some remarkably interesting variations in the nature and mode of operation of the contagia or germs themselves. It must be familiar to all who have studied or attempted classification, how, whether in the animal or vegetable world, or in the case of diseases, the groups seem to arrange in circles, each radiating from a typical centre to a circumference at which it touches those of other circles most nearly allied. So it is with the exanthemata and specific fevers. From a central example—say small-pox, manifesting contagion and infection, and the immunity which one attack gives in an intense degree,—we pass gradually to those that possess these qualities less markedly; to those that are infectious but not inoculable, and to those that are inoculable but not infectious, till we reach those which are neither inoculable, nor infectious, nor prophylactic. So exactly with germ cells. Some seem to be imbibed from the air or carried into the interior with food, some to be inoculable by contact with unbroken tissues and delicate mucous membrane, some seem to require direct contact with the blood or denuded surfaces, whilst in some, again, inoculation with the blood of the infected patient is all potent, and in others only with the germs supplied from the special foci through which the poison seems to be eliminated, which facts have now been repeatedly demonstrated by experiment. Whether the germs thus introduced are of animal or vegetable nature it is impossible to say. The researches of CHAUVEAU and BURDON-SANDERSON, of OBERMEIER and MEIGART, and especially of Dr. KLEIN, have shown that peculiar organisms are met with, in several of these diseases, in such situations and under such conditions as to be presumably the actual disease germs; and that these peculiar organisms are, judging by some of their characters, of vegetable and fungous nature. It may be that there are vegetable germs as well as animal germs of disease; nor is there anything very imaginative in the supposition that this very difference in their nature may afford the reason why their actions and resultant morbid states so widely differ; why intermittent fever, for instance, is neither inoculable nor contagious, for it would seem but natural that whilst ague and others of the non-infectious class should be caused by organisms of vegetable origin, those which are communicated through infected blood and by contact only with very delicate or denuded surfaces, should be animal germs. There is moreover some evidence of the convertibility of these organisms from one recognised form to another, according to circumstances. BUCHNER of Munich has, by very ingeniously arranged experiments, succeeded in producing from the hay bacillus—which is incapable of growing in blood, by

modifying the solutions in which it is cultivated and inducing it to form spores—a bacillus which, like the bacillus of anthrax, will not develop in hay infusions but will in blood, and which, possessing all the other properties, toxæmic and specific, of the bacillus of anthrax, gives rise on inoculation to all the conditions of anthrax—the splenic blood being peopled with the newly formed organisms, and communicating anthrax to healthy animals.

Some recent experiments of WERNICH show that putrefaction, or the addition of putrefactive products to a cultivating solution containing bacteria, arrests their development and activity; whilst PASTEUR, who has succeeded in cultivating the poison-germs which induce the peculiar disease of fowls called "fowl-cholera" in a neutralised solution of muscle, finds that these "microbia" are at once killed in yeast fluid, though the bacteria of "splenic fever" live and thrive in it. The repeated cultivation of these microbia, by impregnating fresh cultivating fluid with small portions of that previously stocked, in no way impairs their power, which is so intense that a minute portion of a drop invariably causes the disease, and death in two or three days, often in one; but it is quite possible to modify the potentiality of the solution, and so of its microbia, by variations in the mode of cultivation. Applying these observations, PASTEUR shows that if he vaccinates, as he terms it, fowls with a solution of weak power, most of them live, and survive the disease, and, especially if again similarly vaccinated, may thereafter be inoculated with the most virulent solution with absolute impunity; in other words, that as vaccination renders the patient nearly always no longer susceptible to small-pox, so does "vaccination" with this weakened poison of fowl-cholera render the birds insusceptible of fowl-cholera disease.

These results of WERNICH and PASTEUR, moreover, seem to throw some light upon that special peculiarity of the exanthemata—that one attack generally gives an immunity for life; from those of WERNICH we might infer that the poison affords its own antidote, in that as soon as it produces septic changes in the blood, these very changes destroy it; from those of PASTEUR, that either the poison in its own elaboration produces some material which is inimical to its further development, or that it consumes all the special material requisite to its growth. To settle this question, PASTEUR evaporated media in which the "microbion" had been fully developed until cultivation became impossible in the filtered liquid, and then added fresh cultivating fluid to the residuum, when development was at once fully re-established; the plain inference being that the arrest of development is not due to the introduction and presence of any deleterious matters, but to the abstraction of something necessary.

Passing now from the consideration of the specific fever, in respect to which we leave much unnoticed, we pause for a moment over the great examples of the day. To the clear philosophic deductions, the patient investigation and experimental research, and their masterly applications in practice, of Professor LISTER we owe the grand results of antiseptic surgery. At home, abroad, no longer the recognised novelty, "Listerism" has become the recognised necessity of civilised surgery, for the voice of the surgical world proclaims its truth; and even those who hesitated to accept Professor LISTER'S theory and *rationale*—ascribing the success of his measures rather to extreme care and cleanliness—give willing testimony to the grand results of his practice. And what is antiseptic surgery but the rational application of the germ theory? Crowded wards, atmosphere loaded with the emanations from the sick, and from purulent and putrescent discharges, were seen to be the incentives to traumatic fever, pus formation, and delay in the healing of wounds. "Were septic elements more abundant in the surrounding media in such conditions?" Experiment proved they were. Means were adopted to destroy these and prevent their access to the wounded surfaces, and antiseptic surgery was at once a fact. So manifest, indeed, is the action of the presence of these germs that the surgeon is at once informed of the imperfection of his antiseptic measures by the rising temperature and commencing febrile excitement indicative of wasteful consumption and combustion, with pus formation, and can with certainty affirm that on inspecting the wound in such cases pus will be found, and with it, and in the dressings, the organisms supposed to be the septic germs in quantity. Could more striking evidence be imagined of the value of Professor LISTER'S antisepticism, or more direct of the importance of the action of disease-bearing germs? Space will not allow us to adduce similar evidence in respect of hospitalism, erysipelas, pyæmia, puerperal fever, &c., nor to do more than refer to the recent investigations of Dr. GREENFIELD on the woolsorter's disease, shown to be forms of malignant pustule and anthrax; the blood from the heart and spleen and juices of the bronchial glands of the patients being found to contain the typical bacilli, and inducing in other animals typical anthrax and death in a few hours; and especially to those of TAPPEINER, who caused dogs to inhale in a lowered form, for a quarter of an hour daily, the sputa of chronic bronchitis; others the matter from a scrofulous gland; others, again, the sputa of a patient suffering from phthisis. In the first two sets of dogs no result followed; but in those made to inhale the sputa of phthisis, tubercles were found in the lungs whenever a period of nineteen to twenty-three days had been allowed for incubation—that is to say, before the dog was killed and examined. In this instance it seems obvious either that the sputa of phthisical patients must contain some contagium which induced the formation of tubercles in twenty-three days, or that the diseased cells, or germs imported from a phthisical lung by contact, induced, or by development and propagation formed, tubercle in a lung previously sound. The first assumption, in our present state of knowledge, seems unsupported; the second, *primâ facie* more probable, we think we shall be able to show receives material corroboration from the facts of "diseased germs," which we shall consider in another article.

SOONER or later we shall have to face the fact that it is no more possible to make a people healthy by Acts of Parliament than it is to render a nation religious, or inspire the aggregate intelligence of the multitude with sound principles of morality, by statutory enactments. In an economic sense, no doubt, the common-mind of a population is something distinct from the sum of its individual manifestations of consciousness; and therefore the nation, as a social

organism, may reach a higher stage of development than has been attained by the average number of its members. This is particularly likely to be the happy result of intelligent progress in a country which has escaped the pestilent heresy that regards the *individual* instead of the *family* as the unit of the nation. Nevertheless, looking to the every-day workings of energy, of all kinds, in the midst of a community, and noting the operation of laws of association, action and reaction—as inexorable as the laws of Nature herself, though incomparably less rational,—in short, taking a "practical" view of this phase of sociology, it is impossible not to perceive that the final influence of legislation on progress can only be educational. It follows that the aim of the law-maker should be to formulate principles of policy rather than to define and control the details of personal conduct. There may be matters in respect to which the multitude need to be instructed through conduct, as children are taught, being trained to do certain acts, or to leave others undone, before they are in a position to understand the reason why; but affairs of this class and character cannot be numerous except in the earliest stages of a nation's history. The intelligence of a people rapidly outgrows this elementary grade of its development, and year by year the common-sense instinct more determinately asserts its right to be governed on obvious—that is, self-evident—principles. In patriarchal times, for example, it sufficed to enjoin the use of the mattock in carrying out an earth-system of sewage-disposal, to impose prohibitive measures of cleanliness, and even direct personal precautions, against disease, together with the avoidance of certain forms of flesh as food on account of the gross feeding of the animals from which it was derived, without in any instance attempting to popularise the wisdom and forethought by which these sound maxims of sanitary government were dictated. Later on, as general intelligence advanced, but attention was diverted from the simpler lines of social economy, public opinion broke from the bonds of tradition, and disowned and abandoned obligations and restrictions it failed to comprehend, and blindly and resentfully cast them aside as mere ceremonial observances incompatible with the higher grade of intellectual development to which it had attained. When this spirit set in, it ceased to be good statesmanship to regard the work of legislation in any other light than that of educational—or, as history has shown it to be, *re*-educationary—policy. The advanced sanitary system of the nineteenth century is little more than an extension and adaptation—not always an improvement upon the original form—of the system extant among the earliest communities, and specially embodied for the use of the people of Israel in the Mosaic code. The investigations of modern science tend to elucidate and enforce the provisions of the ancient system, rather than to justify the manner in which they have been set aside. Meanwhile the conditions of our social life and policy are, as we have said, such that it is only by such elucidation and intellectual enforcement the laws of health can now be effectively applied.

Sanitary reformers, in their enthusiasm, forget this practical phase of the question of progress. They argue, and declaim against Governments and the Legislature, as if the mere passing of a Bill through Parliament were a panacea for every ill to which a nation is heir. If this were the fact, the national health might be successfully promoted by agitation, and Acts of Parliament would come to be something more than legal facilities for the convenience of the well-disposed. As it is, the utmost service any statute can render the community is to afford such of its members as are in earnest an instrument to enforce the obligations set down. It is necessary—and the circumstances of the moment render it opportune—to call attention to this fact. It is true that we have large and very expensive organisations, such as the Local Government Department, the Metropolitan Asylums' Board, and Sanitary Authorities scattered over the country, which are especially constituted and maintained to set the law in motion and to quicken the dead letter of the Statute-book into a thing of life; but experience shows only too convincingly that incorporations of this class are apt to become inert, and in that event are sure to prove obstructive. Perhaps the most cranky and unworkable combination in the whole of the State machinery is the comparatively recent contrivance for local government purposes erected at Whitehall. To say that a deadlock has occurred is to understate the case. Not merely has progress been arrested, the wheels are hopelessly fixed, and the right honourable gentleman in charge of the apparatus is evidently at his wit's end and paralysed by dismay. It is not creditable that this should be so, but we cannot shut our eyes to the facts. The functions of the Local Government Board, so far as public health is concerned, are practically suspended. Perhaps two years hence, if we could only afford to wait, Mr. DODSON might have made up his mind in respect to matters of urgent concern. For the present, however, he is bewildered, and seeks refuge in "consideration," that common-place subterfuge of the mysterious and the incompetent. While Mr. DODSON is considering, small-pox may spread for want of means to isolate the sick, and the population may remain unprotected. The President of the Local Government Board is clearly unequal to his task—he has not the tact to rescue the rash but prematurely decrepit Asylums' Board from its legal troubles, as a stronger minister might easily do, and he has suffered himself to be over-ruled by the Treasury in respect to the question of funds to carry out the provisions of the Vaccination Acts, and to popularise, if he cannot enforce, revaccination. The supply of calf-lymph is probably not forthcoming simply because there were no funds available to defray the cost of providing it. Taking the situation as a whole it is humiliating, and we must add, disgraceful.

What is to be done? The only course open to those who have a practical interest in the cause of health, is to take the matter seriously in hand, and to do what the constituted authorities are, under diverse pretences, neglecting—namely, to put the law in motion. This is why we think it opportune to fall back on first principles, and to point out that, after all, it is to the *people* the appeal for energy must ultimately lie. The officials publicly charged with sanitary administration are not absolved from their duty, but the community is not doomed to tolerate preventable disease in its midst simply because its public servants neglect their plain duty. Self-help is possible, and self-help is the indispensable condition of complete success. The powers-that-be

are inactive, but the principles embodied in our legal code are none the less effectual because they are not applied. Seeing that the issues involved in this question are those of life and death, it is strange that the public is not more deeply concerned. Small-pox is spreading, and the measures taken for the arrest of the epidemic are inadequate. In short, active precautions may now be said to have ceased, and the authorities answerable for this state of things are chiefly engrossed in paltry questions of responsibility and in mutual recrimination. If the community desires reform, it must take the matter into its own hands, and the inconveniences and sacrifices arising out of the situation will not have been endured without recompense if in the end it is brought forcibly home to the conscience of the nation, and learnt in the family circles of the population, that practical sanitation is an affair of Self-help.

THE annual report of the Inspector-General of Recruiting for the year 1880 affords a considerable amount of interesting information bearing upon the physical condition of the army and on the subject which has lately attracted so much attention—our boy recruits. The number of recruits who joined the service during the year was 25,622; this was 305 fewer than in 1879, but was more than sufficient to keep the force up to the establishment voted by Parliament for the year 1880-81, which was 178,430 men, while the actual number serving on the 1st of January, 1881, was 181,233. With a view, we presume, to facilitate recruiting, the standard of height for the infantry was lowered in June from 5 ft. 6 in. to 5 ft. 5 in. During the year 42,668 recruits were primarily inspected, of whom 15,477 were rejected, being at the rate of 363 per 1000. This is considerably above the average, but the excess may probably be, to some extent, due to the opportunity presented by the large number of recruits for greater strictness in enforcing the requirements as to physical qualities. It is stated also that the regulations of the Army Medical Department for the examination of recruits were issued in a more complete form to all civil medical practitioners who were registered and authorised to examine recruits. That this, by inducing greater strictness on their part in the discharge of this important duty, may have contributed to the increased proportion of rejections, appears very probable from the fact that in the last Army Medical Department Report published—that for 1878—the proportion of recruits rejected on primary inspection by civil medical practitioners was only 149 per 1000, while that by army medical officers was 298. The means are not afforded in the report before us of ascertaining the practical result of this measure, for which we must wait until the Army Medical Department volume for 1880 is published.

With a view to show the effect of the present system of enlistment for short service upon the quality of the recruits, the Inspector-General has instituted a comparison as regards age, height, and weight, between those enlisted in 1874—the first complete year of the subdistrict system of recruiting—and those in 1879, the results for the latter having, we presume, been specially obtained from the Army Medical Department, as they have not yet appeared in any Blue-book. As regards age, the proportion of recruits under twenty amounted, in 1874, to 56 per cent., while in 1879 it was as low as 46 per cent. In 1865 the proportion under twenty was 55 per cent., so that it clearly appears there has been an improvement in 1879 under this head of about 10 per cent., as compared with previous periods. The proportion of recruits under 5 ft. 6 in. was 443 in 1874, while it was only 302 per 1000 in 1879; but the comparison as regards height is somewhat wanting in accuracy, for while the minimum for infantry was 5 ft. 5 in. throughout the first year, it was 5 ft. 6 in. during five months of the last. As the returns for 1879 are not yet published, we have not the means of making a strict comparison; it is, however, extremely probable that were we able to do so, the proportion under 5 ft. 6 in. would still be found lower in the latter year. On comparing the weight of the recruits enlisted in the two years, it appears that while in 1874 there were 434 per 1000 under 130 lb., in 1879 there were only 374 below that weight. There are no details given of the chest-measurements of the recruits, but as the minimum was raised in 1877 from 33 in. to 34 in. it may be fairly assumed that the average would be higher in 1879 than in 1874. It would thus appear that as regards age, height, and chest-measurement, there has been a marked improvement in the quality of the recruits in the last five years. But if the comparison be made with those raised in 1865—a date anterior to any of the changes in the organisation by which the average age of the soldiers has been so materially reduced—the improvement in the physique of the recruits will be found still more strongly marked. In that year the proportion under twenty years of age amounted to 549, under 5 ft. 6 in. in height to 400, and under 130 lb. in weight to 577 per 1000 inspected; so that in all these respects, but especially in height and weight—qualities which can be accurately measured,—there has been a very satisfactory improvement. The Inspector-General remarks that "we purchase this improved physique of the Army at the expense of rejecting annually a much higher percentage of the men who offer themselves as recruits." But we fail to see any disadvantage in this. If, as we have already shown, the service attracts so many young men that we are enabled to keep it even above the authorised establishment with this higher proportion of rejections, it is a fair inference that the improvement above noted is due to the circumstance that it is thereby possible to enforce a higher standard of physical fitness for service. The report shows, as regards the classes from which the recruits are drawn, that there has been an increase in the number of men raised from that of "mechanics employed in occupations favourable to physical development—as smiths, masons, carpenters, &c.," and of "shopmen and clerks," who are stated to make very excellent non-commissioned officers; while there has been a decrease in the class of "labourers, husbandmen, and servants," and of "manufacturing artisans." As might have been anticipated, there has been a decided increase in the educational acquirements of the recruits—a result doubtless due to the marked progress in the general population under the Education Acts. The preceding results show that the complaints made by general officers of the youth of the Army and the want of physique are due, not to a falling off in the quality of the recruits, or, as alleged by some, to a general deterioration of our population, but to the removal of the old soldiers by the expiration of the term of service of

those enlisted under previous Acts, and by he transfer to the reserve of those enlisted under the Act of 1872, after completing their six years of service wit th colours.

From a return appended to the eport we find that the mortality of the army at home an l abroa during the year 1880 amounted to 17·59 per 1000 o mean strength. This is considerably higher than the n rtality in 1878, the year included in the last published volume of the Army Medical Department, but approximates closely to the average of the ten preceding years. The proportion discharged by invaliding during the year was 21·88 per 1000, being 6 per 1000 lower than in 1878, but almost identical with the average ofthe ten years. There is every reason to anticipate a reduction in the invaliding in each succeeding year by the operation of the transfer of men to the Reserve at a much earlier period than that at which they were formerly released from the service.

ALL the preliminary steps for the Census enumeration of 1881 ought now to be complete. Before this issue comes under the eyes of our readers the Householders' Schedules should have been duly delivered by the large army of enumerators, and be already in the hands of the heads of families. The few simple particulars required by the Census Act, which are precisely the same as those asked for in 1871, should be entered in the schedule for each individual sleeping or abiding within any abode during to-morrow (Sunday) night, in order that the schedules may be ready for delivery to the enumerator, who will call for the same in the course of Monday next. Before nightfall on Monday next the first important stage of the Census of 1881 will have been completed, and, national curiosity having been excited, the results of the numbering will be awaited with a certain amount of expectancy, if not impatience. The Registrar-General's instructions to the various officers concerned in taking the Census contain what is called a Census Calendar, from which we may form some idea of the machinery by which the individual householder's schedule will be made to yield the final results of the national enumeration. On Monday night next about six millions of individual householders' schedules will have been collected by about 35,000 enumerators throughout England and Wales. These enumerators are allowed a week for copying the contents of these individual schedules into enumeration books, and on or before the 11th of April these books, together with the original schedules, should be delivered to the registrars by whom the enumerators have been appointed, and who are responsible for the efficient enumeration of their subdistrict. Before the expiration of another fortnight, that is, on or before April 25th, registrars should have forwarded all the original schedules to the Census Office in Craig's-court, and the enumeration books, together with all other census documents, to their superintendent registrar. These officers are in their turn allowed a week for revising the enumeration books, and the summaries of the same, and are instructed that on or before the 30th of the month part of the revised enumeration books should be forwarded to the Census Office, and that the remainder is to follow in rapid succession. Thus if the Registrar-General's programme be strictly carried out the staff of clerks in the central office at Craig's-court will be busily engaged before the end of the present month finally revising the enumeration books, which will previously have passed through the hands of the enumerator, the registrar, and the superintendent registrar. Between the end of April and the middle of June will be prepared the Preliminary Census Report for presentation to Parliament. This report, in addition to the now population of England and Wales, and of its counties, and registration divisions and subdivisions, will probably show the number of persons (distinguishing the sexes) enumerated in each borough, local government district, and other urban sanitary district. In this preliminary report no attempt will be made to show the ages, civil condition, or occupation of the people. This and other information will find place in the final Census Report, and will be published from time to time during the two years which will elapse before the information to be derived from the householders' schedules, now in the hands of heads of families, will be completed, and be fully available for the use of the public.

Annotations.

"Ne quid nimis."

THE ILLNESS OF LORD BEACONSFIELD.

A SINCERE feeling of concern for the state of the Earl of Beaconsfield pervades the community without reference to rank or politics. This has been rendered conspicuously apparent by the inquiries made at Curzon-street, personally by the Prime Minister, and the leading members of the Liberal party, as well as those of his lordship's own following. It is, of course, with the medical aspects of the illness that we are more particularly interested. A curious announcement has appeared in the daily papers to the effect that Lord Beaconsfield has not been treated "homœopathically," but "according to the regular practice of allopathy." The medical profession does not recognise any "pathy"! There is a system of medicine—based on the knowledge of Nature's order in health, the manifestations of disease, and the ascertained effects of remedies and methods of treatment—which is accepted and practised by the common consent of the profession. Without at the moment entering upon the ethical question raised by the consultations in this case, it may be stated that hypotheses of cure by similars and cure by contraries have no place in scientific medicine; and we hold that no member of the medical profession is justified in committing himself to a school which affects to adopt either of these principles as the basis of a systematic treatment of disease. Still less can any member of the profession be at liberty to adopt either of the two systems indifferently or at the pleasure or whim of his patients. What would be thought of a lawyer who adopted a private interpretation of the statute book, or of one who offered his clients a choice of two methods? Nature is not less inexorable in her demand for the intelligent submission of her disciples to the known laws of health and disease than are the Courts of Judicature. No law of Nature is of private interpretation. It must therefore be evident that the notification that Lord Beaconsfield has not been treated "homœopathically," but "according to the regular practice of allopathy," has no professional significance. The reports of Lord Beaconsfield's illness which have reached us seem to indicate a state not very difficult to recognise. He is probably suffering from an affection which the late Sir Henry Holland was among the first to describe—namely, that form of inflammatory congestion of the bronchial apparatus which occurs in connexion with the gouty diathesis, more particularly when the constitutional malady is not, as it were, focused

and restrained by localisation in the usual form. The noble Earl suffers from a lack of nerve power—as distinguished from cerebral energy—which is by no means uncommon in men of Lord Beaconsfield's type. The intensity of his lordship's vital force has for many years been remarkable, but it has been mainly due to *mental* energy, called forth in response to mental stimuli. With an organism so energetic and thus vitalised, there must needs be a perpetual liability to the suppression or metastasis of diseases which require a somewhat high grade of local disturbance to reach their normal type; meanwhile there is necessarily much irritability and weakness. The difficulties attending the management of such a case are obviously great, and its vicissitudes many and various. We can only express an earnest hope that these difficulties may be surmounted, and that the Earl of Beaconsfield may be spared to resume the prominent position in the Legislature from which he has been so inopportunely displaced.

A CRITIC'S MORALITY (?)

A QUARTERLY publication called *The Modern Review*, in its issue dated April 1st, contains nine articles, all of which are duly authenticated and signed, save one. The unique exception is entitled "The Medical Profession and its Morality." It is not quite clear why the writer of this lucubration should have kept back his name, nor does the maudlin and impertinent apology of the editor furnish any explanation why his "esteemed contributor" should "prefer to withhold his signature." A writer so dead to even the forms of truth, honesty, and decency can surely have no occasion to respect either his person or his name. It would seem rather to have been mean, craven cowardice that prompted the discretion. Otherwise it is almost incredible that anyone should have deliberately published anonymously such odious and wanton charges in a magazine having all its other articles signed and acknowledged. Here are some "elegant extracts" from this reviewer's pages:—"Apparently there are cases where cure is not an object! Plumbers are popularly believed never to mend one hole in the leads of a house without making another. The gentlemen whom we call in to tinker our internal pipes and gutters, it is to be feared sometimes adopt similar tactics." "As a *profession* [the italics are *not* ours] the guilt and shame of the atrocious Contagious Diseases Acts lie at the door of the medical men of England, and it is their gross materialism, their utter disregard for human souls when lodged in the bodies of the despised and wretched which has made such legislation possible." "The profession has proved doubly treacherous to women." It is neither necessary nor dignified to heed such false, foolish, and hysterical charges. The gratitude, respect, and esteem of an intelligent and virtuous community afford a complete and final answer. The professional good conscience can therefore well afford to disregard the skulking diatribes of a "Modern Reviewer."

NON-COMBATANTS.

THE official despatches from the Transvaal, published in the *Gazette* of the 22nd ult., bear out fully the opinion we have repeatedly expressed of the injustice of classing medical officers with non-combatants in the distribution of rewards and honours. The late Colonel Anstruther, in his report of the action at Bronker's Spruit on the 20th December, says:—"It was exceedingly fortunate that Providence spared our only medical officer and his assistant-surgeon. Ward's work can hardly be described. It was endless for forty-eight hours; until assistance arrived he had not a moment to himself." We may add that Surgeon Ward's name appears in the list of the wounded. Sir George Colley also in his account of the fight at Ingogo, reported: "Surgeon M'Gann well maintained the distinguished reputation of the medical department for self-sacrificing exposure in attendance on the wounded until the arrival of the ambulances with Surgeons Ring and Landon; he was the only medical officer with the force, and laboured indefatigably with the wounded." *The Times'* correspondent, in his account of the action, says: "Where all were calmly courageous it seems invidious to make mention of any; but Dr. M'Gann, Army Medical Department, behaved splendidly. He never spared himself for an instant; whenever the cry was heard, 'Pass the word for the doctor,' he quickly made his way to the wounded men, making himself, for the nonce, the most prominent target for the Boer marksmen." Such are the men, such their deeds, and such the dangers to which they are exposed in the discharge of their important duties, whom the authorities at the Horse Guards persist in classing with non-combatants when rewards and honours are being conferred. We do not find that they so regard them when their services are required. Surely it is time that the War Minister should interfere to put an end to so glaring an injustice. We sincerely trust that Mr. Childers will take up the question, as we have little doubt if he does so his sense of what is right will lead him to make such arrangements as will put an end to so unjustifiable an anomaly.

THE PATHOLOGY OF CARBUNCLE.

ALL authorities have been for a long time agreed that the central fact in the pathology of carbuncle is death of a certain portion of tissue, but there has been, and is now, considerable difference of opinion as to whether it is death of a portion of the true skin, or of the cellular tissue, or of both, or of a gland. The clinical features of the affection, although well marked, are hardly sufficient to settle the point, and thus equally good surgeons have held these diverse views. Dr. J. Collins Warren, of the Harvard University, has devoted considerable attention to this subject, and has come to the conclusion that the pathology of carbuncle is closely connected with certain structures in the skin hitherto undescribed, which he has named the columnæ adiposæ. It is stated that in thick skin bearing only fine downy "lanugo" hairs, there are nearly vertical clefts and slender columnar spaces reaching from the bottom of the hair-follicles through the deeper parts of the corium into the subjacent panniculus adiposus. These spaces are filled with fat, bloodvessels, lymphatics, and usually also a coiled-up sweat-gland; and it is to these that the term columnæ adiposæ is applied. At about their middle, lateral horizontal branches are given off, which form a series of intercommunicating channels in the corium, which can be injected from the subcutaneous fatty layer. Close by the deeper end of each column a broad bundle of fibrous tissue passes from the corium through the fatty layer to the deeper fascia. The neighbouring bundles interlace in various directions; they connect the skin and deep fascia more or less firmly together. These columns are only found in connexion with hair-follicles, and in thick skin with downy hairs; in other conditions the follicles reach quite through the corium. The vessels, which all reach the cutis vera by piercing its deeper surface, are only found taking this course along these fat columns, and giving off lateral branches along its offshoots. In sections made through the margin of a carbuncle, Dr. Warren finds that the first change is an infiltration of the subcutaneous fatty tissue with wandering cells which creep up the columnæ adiposæ and along their lateral branches and secondary offshoots, and so ultimately infiltrate the whole thickness of the true skin, except a thin superficial layer, which being free from these channels does not afford the spaces along which the cells can wander. This

is accompanied with swelling and elongation of the columns, and the destruction of their normal contents, and they now are visible to the naked eye as small prominent pustules, often with a fine downy hair attached.

But another origin has also been found for the small superficial pustules. The papillæ become infiltrated and œdematous, much swollen, and often balloon-shaped, with the narrowed end deep; they then project above the surface, their contents break down into pus, and quickly escape. Adjacent papillæ may unite, and so form rather larger pustules; and, on the other hand, the process may stop short of suppuration, and the inflamed tissue retrograde. Meanwhile the subcutaneous infiltration continues, extends, and intensifies, but cuts off the blood-supply without melting down the deep bundles of fibres passing through it, which therefore form the tough adherent sloughs at the bottom of carbuncles. The true nature of carbuncle may therefore be said to be purulent infiltration of the subcutaneous tissue, with secondary injection of certain normal cavities in the true skin, and inflammatory products, which compress the nutrient vessels and lead to suppuration and sloughing. The common situation of carbuncle and its altered character when attacking skin where the corium is very thin or the hairs long and stiff, show that the explanation of its peculiarities must be looked for in some anatomical arrangement. The marked relief obtained by incisions is fully explained by this pathology. Dr. Warren states that not only purulent infiltrations but new growths, such as sarcoma and nævus, spread up to the surface along these columnæ adiposæ, and that this condition may then be readily recognised by the naked eye.

THE CHAIR OF PATHOLOGY IN EDINBURGH.

OUR Edinburgh correspondent writes:—For the Chair of Pathology in the University, which will be filled up in the course of April, the following candidates have come forward: Dr. Byrom Bramwell, late of Newcastle-on-Tyne, now Lecturer on Medicine in the Extra-Academical School here; Dr. Greenfield of St. Thomas's Hospital, Superintendent of the Brown Institute; Dr. Hamilton, at present Pathologist to the Royal Infirmary, who, as assistant to the late Professor Sanders, conducted the course of lectures during his illness, and who has conducted the class of Practical Pathology for the last few years; Dr. Rabagliati of Bradford; and Dr. Roy, formerly assistant in the University of Strasburg, &c. It is rumoured that the curators will select either Dr. Hamilton or Dr. Greenfield.

FIRE AND PANIC IN THE THEATRE.

THE tragedy at Nice will recall public attention to the state of our own theatres for the moment, and then the ever-present danger will be forgotten again until some hideous holocaust, perhaps involving the loss of hundreds of lives, once more revives a problem which, being unable to solve, the authorities and the public seem equally anxious to shelve. The facts are simply these: there are not half a dozen theatres in the metropolis, and probably not more than a score in the country, from which escape in an emergency would be practicably possible. This statement is so opposed to the interests of lessees, so humiliating to those who have planned and superintended these constructions, and so discreditable to the licensing authorities, that it is quite sure to be contradicted or ridiculed. Nevertheless, it is simply and grimly accurate. There was something grotesque in the recent order to provide extra doors for use "in case of fire." Are those who legislate for the security of life under conditions of panic so ignorant of the nature of panic as not to know that its first effect is to obliterate all traces of transitory and recent impressions and to place the whole being at the mercy of impulse and habit? If a particular doorway is to be used as a means of exit in an emergency, it must be employed as a way of entry and exit on ordinary occasions. If it did not generally happen that the "extra" doors of theatres are locked when they ought to be open, it would still be absurd to rely on such exceptional means of escape. It would be altogether impossible that a fairly full audience could be got out of a London theatre without fearful casualties if panic prevailed. Some of the most frequented and fashionable theatres are the worst. Nevertheless, this state of things is tolerated, and a Select Committee has gone through the farce of examining a multitude of interested witnesses and framing a report full of the feeblest and most inadequate suggestions, while a Lord Chamberlain has issued a few puerile directions for the adoption of measures of no possible effect. It is useless to dwell on the matter. The community of playgoers elect to take their chance, and their entertainers and official protectors are content that they should do so. Who, then, has any right to complain?

PSEUDO-MEDICAL ADVERTISEMENTS.

THE reference made in the course of the trial so generally described as the suit Lawson *v.* Labouchere, to the protest entered by THE LANCET against pseudo-medical advertisements of an indecent class appearing in lay newspapers, recalls the following sentences which we penned in 1864-5: "The sin of this quackery shall not lie at the door of the medical portion of the press. Let us hope that the press generally will come to a similar resolution, and show the strength of it by foregoing the profits which accrue from advertisements, . . . which, indeed, are fast rendering ordinary papers unfit for introduction into families." Again: "No doubt to many a struggling journal the sums so received constitute an inducement which pleads very urgently for the continuance of a practice which is so largely lucrative. But if the attention of the general public be sufficiently awakened to the vile nature of this traffic this inducement will cease, for the loss of circulation and the loss of character incurred by journals which shall continue to defile their columns by the announcements will more than counterbalance the direct profits of the paid insertions. There is no reason that we can see why it should be considered much less disgraceful to print this sort of obscenity, than it would be to introduce it into written correspondence or ordinary conversation. The journalists who permit their columns to be so abused are undoubtedly the accomplices of those whom they freely denounce in their leading articles."

CINCHONA PLANTATION IN BOLIVIA.

THE cultivation of the cinchona in the East Indies, which was originally undertaken on account of the prospect that the supply from South America would ultimately come to an end, is having a beneficial reaction, and in Bolivia, at least, energetic attempts are being made to keep up the stock which was in danger of a not distant extermination. The effort originated with private individuals in 1878; already (according to the report of the Dutch Consul) there are on the banks of the Mapiri at La Paz four or five hundred thousand young trees of two years' growth. In other places new plantations are springing up, chiefly on the mountain slopes, which are cultivated for three-fourths of their height, while the cinchona tree is found growing on the summit or in valleys and ravines. The tree was once abundant over the slopes, but has long since disappeared from them, under the wasteful system of destroying the trees. Even now the trunks of trees may be found rotting on the ground, the bark removed from the upper surface only.

The task of culture is an easy one in the original haunts of the cinchona. It only requires a few days in the year to

clear the ground necessary for a cinchona plantation, to transplant the young trees from the nurseries, and to keep the ground free from weeds during the first and second years, and afterwards the trees may be left to themselves. But in the uncultivated tracts of land more capital and labour are required, although the expense of purchase is not great, since a tract of land fifty-nine miles long was sold for £100. The clearing away of the dense forest is the most troublesome part of the work. Banana trees are planted between the cinchona seedlings to give them shade for the first year or two, when the chief danger is from drought and ants.

It is estimated that these plantations may possibly be a source of danger to the cinchona cultivators of India if they are managed with energy, and that whether sufficient zeal will be forthcoming will depend on the cinchona bark maintaining its high price. If its price falls considerably, the cultivation of cocoa will be more profitable, and the supply of labour scarcely suffices at present for energetic attention to the two industries.

FLOGGING IN THE ARMY.

IT is with especial satisfaction we hail the abolition of flogging in the army. This is one of the reforms which the late Mr. Wakley set on foot, and in regard to which he was deeply in earnest. THE LANCET, as an organ of professional opinion, has always taken a prominent part in the movement. The "Hounslow inquest" will be fresh in the recollection of many of our readers; and it will not be forgotten that the inquiry, which elicited the most startling and significant facts, was adjourned ten times. The lash was then shown to be a weapon capable of inflicting formidable and even fatal injuries on the deep structures, while apparently doing little harm to the superficial. It was found to be a murderous and wholly misleading instrument of torture. The moral effect a punishment of this degrading character must needs produce on the mind of its subject is obvious to everyone who, not being the victim of red tape, has taken the trouble to think about the matter seriously and impartially. At last, then, flogging is at an end. It would have been wise and more gracious if the opposition offered to this necessary reform in high quarters had been withdrawn before public opinion compelled a submission which common sense had long dictated.

PASTEUR'S NEW DISEASE.

IN THE LANCET for Feb. 5th, p. 220, we called attention to the remarkable effects which M. Pasteur had obtained by inoculating rabbits and guinea-pigs with the saliva of a child which had died from hydrophobia. The animals, it will be remembered, died thirty-six hours after inoculation, and in their blood was found a bacterial organism, which was quite peculiar, which could be cultivated, and then produced, when inoculated into other animals, symptoms identical with those observed in the others. M. Pasteur did not assert that this was the special microbic organism of rabies, but he considered that his experiments and the microscopical characters of the organism warranted the assertion that the disease was not septicæmia, but a malady altogether new to experimental pathology. In order to ascertain whether a similar affection can be produced by the inoculation of the saliva of persons who have died from other common diseases, M. Pasteur has made some inoculations with such saliva, but without any results. But since the case of hydrophobia was in a child, M. Pasteur applied to M. Parrot for some saliva from children dying from diseases which are regarded as non-specific, and received some from the bodies of three children who had died the preceding day from broncho-pneumonia. In rabbits inoculated with this saliva there was found precisely the same organism as had been discovered in those which had been inoculated with the saliva from the case of hydrophobia. He thinks it certain, therefore, that this organism may often be found, and that it is one of those which have their habitat in the commencement of the alimentary tract. Hence, as he points out, it is not in any way connected with rabies, but it is a surprising fact there should exist in the saliva, at least of children, a special organism which is capable of causing so rapidly the death of rabbits and dogs, even when inoculated in very small doses. It is a fact of very great importance in the etiology of diseases which may be ascribed to microscopic organisms.

THE GENERAL MEDICAL COUNCIL.

WE understand that the General Medical Council is summoned to meet on April 26th, and the Executive Committee on the 12th. It is not easy for outsiders to divine what can be the justification of another meeting of the Council in less than two months after the last, when the Council came from the four winds, and at a great cost, for one day, to reinstate a few hundred deregistered dentists under the Dentists Act, very much at the bidding of counsel. Another meeting at a very inconvenient season does not necessarily therefore mean anything urgent, or any business in which the profession or the public can have much interest. *Nous verrons.*

HOSPITAL SATURDAY.

A GREAT effort is being made in Liverpool to make the Saturday collections, representing the interest of workmen in hospitals, more satisfactory than hitherto. It is thought if employers of labour would take the trouble to have the object fairly and systematically placed before their *employés* the object would be gained. Liverpool, in this matter, does better than London. But Liverpool is far behind Birmingham. In eight years the working men of Liverpool, with a population of 150,000 more than that of Birmingham, have contributed £16,738 14*s.* 10*d.*, against £29,815 9*s.* 1*d.* by the smaller population. The secretary of the Hospital Saturday movement in Birmingham modestly attributes the difference to more system rather than to more liberality. He says: "We find the largest contributions are received from those establishments where a systematic collection is made—that is to say, where a sum is set aside weekly. The men do not miss a penny a week, but 4*s.* 4*d.* out of one week's wages would be a very heavy tax on them." We cannot but hope that the working-classes, with their growing power of organisation, will, with or without assistance from their employers, see that this object is one deserving of systematic help, and one in which their credit is concerned. To set aside a penny a week for a worthy contribution to great national charities, existing chiefly for their benefit, is surely only a reasonable sacrifice.

ROYAL COMMISSION ON THE MEDICAL ACTS.

THE *Daily News* of the 23rd ult. had an article approving the determination of the Government to refer the investigation of the Medical Acts to a Royal Commission, and pointing out that everything depends on the composition of the Commission. Our contemporary says: "The earnestness of the Government will be judged by the composition of the Royal Commission. Successive Governments have been misled much in this matter through consulting only the General Medical Council, which is the very body and represents the very bodies under criticism. If the General Medical Council is to advise the nominations, we need not say that the Royal Commission will be a form, not to say a farce, and had better not be appointed." Our contemporary goes on to express confidence in the Government and its belief that the Commission will be one that will command the

respect both of the public and of the medical profession. One thing is certain, that the public will not in this matter have faith in a Commission which does not commend itself to the medical profession.

THE RUSSIAN RED CROSS SOCIETY.

IN an engagement with the Tekes on the 21st July (2nd August) last, Dr. Stouditsky, one of the medical men attached to the detachment from the Red Cross Society with the Transcaspian Army, was killed. He left a widow entirely unprovided for. The circumstances were brought to the attention of the late Emperor in a report presented to him on the 15th (27th) February last, and, in recognition of the services which had been rendered by her husband during the Transcaspian campaign, he was pleased to accord to Madame Stouditsky a life pension of 600 roubles.

A VERY large gathering of Guy's men from all parts of the country took place at the rooms of the Medical Society of London, Chandos-street, W., on Friday, March 25th, on the occasion of the presentation of a testimonial to Dr. Habershon and Mr. Cooper Forster. Mr. Lund of Manchester presided, and in the names of the subscribers, who numbered more than three hundred, presented to Dr. Habershon and Mr. Cooper Forster respectively a handsome silver épergne and an album, containing an address, followed by the names of the subscribers. Dr. Habershon and Mr. Cooper Forster were most cordially received, and the meeting passed off in the most satisfactory manner. A large number of those present then adjourned to the Langham Hotel, where Dr. Habershon and Mr. Cooper Forster were entertained at dinner.

PROFESSOR HELMHOLTZ is announced to deliver the Faraday Lecture at the Royal Institution, Albemarle-street, on the occasion of the triennial festival of the Chemical Society to be held on the 5th inst. The subject will be "On the Modern Development of Faraday's Conceptions of Electricity."

THE Managers of the Edinburgh Royal Infirmary have issued a report confirming the system of tutorial instruction as conducted in the medical and surgical wards. They practically continue to ignore the requirements of students in gynæcology, since they altogether abstain from making mention of that subject in their report.

ON March 13th, 1881, Mr. Warrington Haward employed the rectal lever in a case of amputation at the hip joint. The following week Mr. Richard Davy used the lever as a valuable diagnostic agent, prior to deligation of the left external iliac artery.

THE death is announced of Dr. Harkin, of Vanleekhill, member of the Ontario Legislature.

GUY'S HOSPITAL.—At a meeting of the Medical and Surgical Staff of Guy's Hospital, held March 14th, 1881, it was resolved:—"That the best thanks of the Medical and Surgical Staff of Guy's Hospital be offered to the members of the Norwich Medico-Chirurgical Society, for the vote of sympathy sent to them by the Society in January last. That the Society be informed that the staff of Guy's Hospital have never for a moment relaxed their efforts to accomplish the object they had first in view—viz., to place the medical staff in their right position as regards the management of the Hospital; and they are happy to state that all questions affecting the medical care and nursing of the patients are referred to a committee, on which the staff are now represented."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Chesterfield (*Rural*).—Dr. Angus Mackintosh's report for this district for 1880 is, as usual, noteworthy for the conscientious care with which it deals with the several duties which the medical officer of health has to perform in relation to the particular district. The death-rate was equal to 20·2 per 1000 inhabitants, the birth-rate to 48·0. Dr. Mackintosh directs particular attention to the effects upon the health and comfort of colliers on their return home direct from the pit in their begrimed clothes, contaminating the atmosphere of the dwelling with coal-dust, blackening and soiling whatever they touch, while as a rule their contracted cottages are destitute of that facility for cleansing persons and things which it is desirable they should have. He makes the following admirable suggestions to colliery owners:—"1. That large and commodious baths, with proper accommodation for changing clothes, should be provided in connexion with each colliery in the district, so that every collier on reappearing on the surface, and after divesting himself of his working habiliments, shall be thoroughly washed in warm water, not less than 120° Fahrenheit, and afterwards in cold. 2. That the collier shall always wear a clean suit of clothes on going to and coming from his work, and never take the working or pit-clothes home to his house. 3. That compliance with such rules should be made imperative by the employer on all men commencing work, and that all expense should be defrayed in the first instance by him."

Lytham (*Urban*), *Lancashire*.—Mr. William E. Pountney reports the completion of certain improvements in the drainage of this pleasant health-resort. The death-rate in 1880 was as low as 16·6 per 1000 inhabitants. Lytham, however, it would appear, still wants a sanatorium, and Mr. Pountney again urges the desirability of the sanitary authority providing one.

Handsworth (*Urban*), *Yorkshire*.—In an estimated population of 22,880, Dr. J. B. Welch reports for 1880 a birth-rate of 31·5 per 1000 inhabitants, and a death-rate of 12·5. Referring to infantile mortality, although he ascribes much of it to mismanagement, neglect, and improper feeding, he attributes also much to the influence of heat upon filthy surroundings, particularly the putrefaction of organic matters. Improvements seem in progress in the district in respect to the dealing with excremental matters, and we note that the sanitary authority has itself undertaken the removal of night-soil.

Thingoe (*Rural*), *Suffolk*.—Mr. Charles Scott-Kilner reports for this district in 1880 a birth-rate of 26·4 per 1000 inhabitants, and a death-rate of 15·2. He gives a curious instance of a case of diphtheria in a schoolboy occurring soon after an outbreak of sickness among fowls, which, if not diphtheria, closely resembled that disease. Overcrowding of cottages appears to have occupied the chief attention of the sanitary authority during the year.

Bakewell (*Rural*), *Derbyshire*. — Dr. Philip S. Fentem reports for the northern portion of this district in 1880 a birth-rate of 26·96 per 1000 inhabitants, and a death-rate of 16·01. Great care and labour were given by the sanitary authority to the abatement and prevention of nuisances throughout the year, and their requirements were carried out without the intervention of the magistrates.

Hartismere (*Rural*), *Suffolk*.—Dr. Edgar G. Barnes reports a birth-rate of 31·2 per 1000 inhabitants, and a death-rate of 16·8. The sanitary state of the entire district has improved. This improvement, Dr. Barnes says, "is shown not only in the smaller number of permanent nuisances requiring removal, but also by the greater care shown in preventing their recurrence by the inhabitants of the district." The report contains several instructive instances of the spread of infectious diseases from the carelessness of parents in regard to them. One is novel. Dr. Barnes found on visiting a cottage where scarlet fever existed a travelling draper there who had clearly been fitting convalescents from the disease with articles from his stock. He proceeded at once from this house to another house, uninfected, for the

purpose of exhibiting this stock which had thus been exposed to infection.

Sunderland (*Port Sanitary Authority*).—Judging from his reports, Dr. Yeld must be regarded as a typical port medical officer of health. His report for 1880 is now before us, and, as previous reports, shows in the most effective way the sort of work which the port medical officer of health is called upon to do. The amount of shipping inspection got through in Sunderland is very large, and the influence of this inspection upon the sanitary condition of vessels since it was first instituted appears to be very gratifying. In 1876 not less than 60 per cent. of the vessels inspected were found in an insanitary condition; from this state there has been a steady diminution from year to year in the number, and in 1880 only 15 per cent. of the vessels inspected were found in an unhealthy state.

Liverpool (*Port Sanitary Authority*).—Liverpool appears to have been late in following the example of Sunderland, London, &c., in instituting a careful inspection of vessels. At least so we gather from a report of Dr. Stopford Taylor for 1880. It appears that the inspector appointed to examine and report upon the sanitary condition of vessels in the port only commenced his duties on the 6th September, and the report deals with data from that time to the 31st December. Dr. Taylor's statement in effect is that no difficulty has been experienced in carrying out the work of inspection, and that owners and masters have readily complied with the medical officer of health's requirements.

Wakefield (*Rural*).—Mr. Francis Henry Wood reports for this district in 1880 a birth-rate of 36·0 per 1000 inhabitants, and a death-rate of 18·0, the population being estimated at 34,583. Although no great results have to be recorded, a good deal of detailed sanitary work appears to have been done in the district.

SMALL-POX HOSPITALS: A NEW LIGHT.

Mr. Wynter Blyth, in his last published monthly report to the Marylebone Vestry—that for February—suggests a plan of hospital construction, prepared, he states, "with the very kind assistance and encouragement of Dr. Richardson," which shows, what we were not prepared to anticipate, that according to him it is necessary to reconsider some of the fundamental rules which have governed us for some time in designing infectious disease hospitals. It has come to be a rule among professed hygienists and medical men that the wards of a hospital erected for the reception of contagious or infectious disease should have per bed at least 2000 ft. of cubic space, and 144 ft. of superficial space if the requirements of the patient as to due ventilation are to be secured. But Mr. Wynter Blyth's suggestions to his authority imply that only 800 feet of cubic space and 53⅓ feet of superficial space are alone necessary even in the case of small-pox. There is nothing said in the report as to how this astonishing divergence of view from commonly accepted opinion has been brought about. On the contrary, this divergence is not deemed worthy even of comment, and the suggestion is made as if it involved nothing novel. Nay, indeed, it is stated that the measurements suggested "give sufficient space per head." Assuming that Mr. Blyth is right, here at least is a solution of the present difficulty in which the Metropolitan Asylums Board are placed. For, as in the small-pox hospitals of that Board an allowance per bed of 2000 feet cubic space and 144 feet superficial space is given, it is obvious that they may, according to Mr. Blyth's notions, place in their hospitals five patients for every two patients they now place there, and thus at once more than double their present accommodation for small-pox cases. But is Mr. Blyth accurate in his opinion? The question can scarcely be treated seriously. It is proper to mention that, in view of the Marylebone Vestry being called upon to provide hospital accommodation for cases of small-pox, Mr. Blyth states that he has already reported to the Sanitary Committee of the parish in the sense of his suggestion, and that his monthly report gives an abstract of his views only.

At a recent meeting of the guardians of the City of London the following resolutions were adopted unanimously:—(1) "That this Board is of opinion that no more payments should be made by the board of managers of the Metropolitan Asylums District towards the liquidation of the enormous amount (said to be upwards of £40,000) for law costs in the legal proceedings relating to the Small-pox Hospital at Hampstead, until the total amount be ascertained and communicated to the various parishes and unions comprised in the said Metropolitan Asylums District, with the fullest information and explanations that can be furnished of the whole matter, quoting by what authority and by whose advice the steps were taken for the defence of the action against the managers." (2) "That this Board protests against the contemplated action of the Metropolitan Asylums District managers as to taking further legal proceedings with regard to Hampstead Hospital."

Now that private enterprise is about to be handicapped in the matter by Government it would appear, strange to say, as if we were about to have a shower of establishments for furnishing calf lymph for vaccination. Dr. Cook is doing excellent work at Manningtree, Dr. Warlomont's agency at 3, Hemming's-row is prospering, and now Dr. Renner has opened an establishment at 228, Marylebone-road, not only for the supply of lymph, but also for the vaccination of children on appointed days and at a specified time from calf lymph.

There has recently been a correspondence between the guardians of Lambeth and the managers of St. Thomas's Hospital respecting the mode of dealing with cases of small-pox which may incidentally occur among the out-patients of the hospital, and a satisfactory arrangement has been made by which such patients may be removed to a hospital of the Asylums Board with the least practicable delay, diminishing the risk of contagion to other out-patients to the utmost, and obviating the danger to the public generally arising from the exposure of patients in the streets.

At a meeting of the Fulham Guardians on the 24th ult., the Clerk stated that there were forty-eight patients from the district in the small-pox hospital in the district, and that there were only three vacant beds there. A member took exception to the action of the committee of inhabitants to close the hospital, observing that if the hospital were closed there would be no accommodation for cases occurring in the parish. But another member explained that the committee only desired to exclude cases of small-pox from other districts of the metropolis.

In consequence of the approaching demolition of the Surrey Chapel in the Blackfriars-road, where the principal station of the National Vaccine Establishment has been held since the beginning of the century, arrangements have, we understand, been made by the Local Government Board for the continuance of the work of the Station at the Victoria Hall, Lancaster-street, Friar-street, Blackfriars-road, where Dr. Robert Cory will vaccinate as heretofore on Tuesday and Thursday of each week at one o'clock in the afternoon.

We are glad to notice proceedings taken by the local authorities against builders, both in Hornsey and Hammersmith, for improper work in new buildings affecting their stability and also sanitary condition.

Poplar is still in doubt whether it should use or not its hospital at West Ham for the reception of small-pox cases. The question has again been postponed.

Notice has been given to the Metropolitan Asylums Board of proceedings to be instituted for an injunction to be obtained against the Homerton Small-pox Hospital.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

Although showing a slight increase last week, mortality in the large English towns continues very low for the time of year. In twenty of the largest English towns, estimated to contain in the middle of this year nearly a third of the entire population of England and Wales, 5199 births and 3163 deaths were registered last week. The births exceeded by 13, while the deaths were 94 below, the average weekly numbers during 1880. The deaths, however, showed an increase of 162 upon the low number returned in the previous week, and were equal to an annual rate of 21·7 per 1000, against 23·0 and 20·6 in the two preceding weeks. The lowest death-rates in the twenty towns last week were 17·2 in Salford, 17·5 in Norwich, 17·6 in Nottingham, and 18·0 in Birmingham. The rates in the other towns ranged upwards to 25·0 in Leeds, 25·6 in Portsmouth, 26·2 in Ply-

mouth, and 28·1 in Liverpool. During the first twelve weeks of the current quarter the death-rate in the twenty towns averaged 24·0 per 1000, against 25·6, the average rate in the corresponding periods of the five years 1876-80.

The deaths referred to the principal zymotic diseases in the twenty towns, which had been 311 and 287 in the two preceding weeks, rose to 321 last week, and exceeded any recent weekly number. These 321 deaths included 78 from whooping-cough, 56 from scarlet fever, 55 from measles, 51 from small-pox, and 37 from fever, principally enteric. The annual death-rate from these principal zymotic diseases averaged 2·2 per 1000 in the twenty towns, and ranged from 0·5 and 0·6 in Brighton and Nottingham, to 3·4 both in Portsmouth and in Newcastle-upon-Tyne. Whooping-cough showed the largest proportional fatality in Newcastle-upon-Tyne, Leeds, Sheffield, and Portsmouth; and scarlet fever in Bradford and Sunderland. Of the 17 deaths from diphtheria in the twenty towns 7 occurred in London, 3 in Portsmouth, and 2 in Bristol. The death-rate from fever (principally enteric) was highest in Portsmouth and Oldham. Small-pox caused 52 more deaths in London and its outer ring of suburban districts, one in Birmingham, one in Newcastle-upon-Tyne, and not one in any of the seventeen other large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had steadily increased in the twenty-one preceding weeks from 77 to 853, declined last week to 820. The new cases of small-pox admitted to these hospitals during last week were 147, against 186 and 265 in the two previous weeks.

The deaths referred to diseases of the respiratory organs in London were 348 last week, against 384 and 345 in the two previous weeks, and were 122 below the corrected average number in the corresponding week of the last ten years; 217 resulted from bronchitis and 77 from pneumonia. The annual death-rate from lung diseases, exclusive of phthisis, was equal to 4·9 per 1000 in London last week; while the rate from the same diseases in Liverpool was 7·7, and in Salford 4·6.

The causes of 65, or 2·1 per cent., of the deaths in the twenty towns last week were not certified, either by a registered medical practitioner or by a coroner. The proportion of uncertified deaths did not exceed 1·2 per cent. in London, while it averaged 2·9 per cent. in the nineteen provincial towns. All causes of death were duly certified in Portsmouth, Norwich, Plymouth, Leicester, and Nottingham; while the largest proportions of uncertified deaths occurred in Wolverhampton, Oldham, and Leeds.

HEALTH OF SCOTCH TOWNS.

In eight of the largest Scotch towns, having an estimated population of rather more than a million and a quarter persons, the annual death-rate averaged 23·5 per 1000, against 23·4 and 23·1 in the two preceding weeks; this rate was 1·8 above the average rate in the twenty large English towns. The rates in the eight Scotch towns ranged from 15·6 and 20·3 in Perth and Greenock, to 26·2 and 27·8 in Aberdeen and Leith. The deaths referred to the principal zymotic diseases in the eight towns, which were 82 and 97 in the two previous weeks, declined to 75 last week; they included 27 from whooping-cough, 14 from diphtheria, 12 from diarrhœa, 10 from scarlet fever, 6 from "fever," 6 from measles, and not one from small-pox. The annual death-rate from these zymotic diseases was equal to 3·0 per 1000, and was 0·8 above the average rate from the same diseases in the twenty English towns. The zymotic rate in the eight Scotch towns last week ranged from 0·0 and 1·1 in Perth and Paisley, to 3·4 and 6·1 in Glasgow and Leith. The fatal cases of whooping-cough in the eight towns, which had been 8 in each of the two preceding weeks, declined to 27 last week. Of the 14 deaths referred to diphtheria, 9 occurred in Glasgow and 2 in Edinburgh. The 12 deaths attributed to diarrhœa showed a decline from recent weekly numbers. The 10 deaths from scarlet fever included 5 in Edinburgh and 3 in Leith; and of the 6 fatal cases of measles, 3 occurred in Glasgow and 3 in Aberdeen. The deaths referred to "fever" showed a considerable decline from the numbers in recent weeks; and the death-rate from this cause in the eight towns almost corresponded with that which prevailed in the twenty English towns during the week. The deaths referred to acute diseases of the lungs, which had been 179, 168, and 164 in the three preceding weeks, further declined to 138 last week, and were equal to an annual rate of 5·5 per 1000, against 4·2 from the same diseases in London.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had slowly but steadily declined during the eight preceding weeks, showed a marked increase again last week. The annual death-rate last week was equal to 34·9, against 33·8 and 30·4 in the two previous weeks. During the past twelve weeks of the current quarter the death-rate in the city has averaged 38·4 per 1000, against 23·6 in London and 22.5 in Edinburgh. The 223 deaths in Dublin last week showed an increase of 29 upon the number in the previous week, and included 19, or nearly 9 per cent., which were referred to the principal zymotic diseases, against 23 and 11 in the two previous weeks. These 19 deaths from zymotic diseases included 12 from fever (typhus, enteric or typhoid, and simple continued), 2 from whooping-cough, 2 from scarlet fever, 2 from diarrhœa, one from diphtheria, and not one from small-pox or measles. The annual death-rate from these zymotic diseases was equal to 3·0 per 1000 in Dublin last week, against 2·7 in London and 3·3 in Edinburgh. The deaths referred to fever in Dublin, which had been 10 and 4 in the two previous weeks, rose to 12 last week; the annual death-rate from this cause was more than seven times as high in Dublin as the average death-rate from fever in the twenty large English towns. The recorded deaths from scarlet fever and whooping-cough scarcely differed from recent weekly numbers. The deaths of infants showed a marked further increase upon the numbers returned in recent weeks; while those of elderly persons showed a further decline, and were fewer than in any week since the first of the year.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

DIPHTHERIA IN RUSSIA.

At a meeting of representatives of zemstvos held not long ago in Kharkow, the following particulars were stated as to the prevalence of diphtheria in Southern Russia. In the government of Voronege (population 1,930,859) the disease made its appearance in January, 1869, and during the eleven years ending 1880, 14,131 cases of the sickness had been reported, of which 5112 were fatal. Diphtheria appeared first in the government of Orel (population 1,532,034) in 1878. There are no data as to the number of cases which have occurred there, but 1302 deaths have been reported. The disease no longer exists in the province. The government of Kharkow was invaded in 1869, or rather the disease was then first recognised. It became epidemic in 1877, and 520 per cent. of the sick died. Diphtheria is still prevalent in the government, but in a less fatal form. Diphtheria appeared in the government of Kursk (population 1,076,988) at the beginning of 1877, and the epidemic was at its height there in 1880. In this year 11,546 persons were attacked with the disease, and 4041 died from it. In the government of Kherson (population 1,027,459) diphtheria has prevailed since 1873. To Jan. 1st of the present year there had been reported 25,980 cases, of which 9342 were fatal. In the province of the Don-Cossacks (population 896,870) diphtheria has not assumed an epidemic character, and the mortality from the disease has been insignificant. The figures as to the population of the several governments mentioned, including the Don-Cossacks, are from the returns for 1858.

NOTIFICATION OF INFECTIOUS DISEASES IN THE METROPOLIS.

The meeting of metropolitan representatives of vestries proposed by the vestry of Kensington for conference on the questions to which we referred in our impression of the 12th March, took place at the Town Hall of Kensington on March 23rd, under the presidency of Major-General Boileau. All the vestries appear to have been represented at the meeting, and the different propositions drawn up by Dr. Dudfield—namely, as to the desirability of a compulsory notification of infectious diseases in the metropolis, an amendment of Section 26 of the Sanitary Act, 1866, and the depauperising of the relief given by the Poor-law authorities to the infectious sick, were discussed and adopted

unanimously. A resolution was also carried appointing a deputation to the Local Government Board to submit the conclusions arrived at by the meeting, and ask that the Government should give effect to them by legislation. In the course of the meeting, it is reported that Dr. S. Gibbon, medical officer of health of the Holborn district, maintained that the manner in which infectious diseases should be dealt with would be by drawing a *cordon* around every house where a case of infectious disease should occur. Dr. Gibbon does not seem to have explained that to do this effectually two-thirds of the population of the metropolis would be required to look after the other third.

THE PLAGUE.

The latest news from Turkey as to plague indicates that the disease is still extending in Nedjef and the vicinity. Kufa appears to have been deserted by its inhabitants, and the houses are being subject to disinfection.

In the Gambia, small-pox is stated to be prevailing among the black population; whilst the administrator of the territory reports that, in consequence of the cessation of yellow fever in Senegal, vessels arriving from St. Louis, Goree, &c., are not placed in quarantine at Bathurst if they bring clean bills of health.

A report of Surgeon Glazier on the history of trichinæ and trichinosis has been issued by the American Government. It appears that, judging from the statistics of the medical institutions in the United States where dissections are made, the disease is not common in that part of the world.

Fever having broken out on board the training-ship *Boscawen*, the crew have been sent either to their homes or to the *Warrior*.

THE SERVICES.

ARMY MEDICAL DEPARTMENT.—Surgeon-Major Joseph Watts to be Brigade Surgeon, vice Sampson Roch, granted retired pay; Surgeon-Major St. John Stanley to be Brigade Surgeon, vice John Meane, granted retired pay; Surgeon-Major Charles Moore Jessop to be Brigade Surgeon, vice Charles Carroll Dempster, granted retired pay.

ADMIRALTY.—Surgeon Anthony Gorham, M.D., has been promoted to the rank of Staff Surgeon in Her Majesty's Fleet, with seniority of 23rd ult. The following appointments have been made:—Surgeon Malcolm V. Stace, to the *St. Vincent*, additional, for service in the *Martin;* Staff-Surgeon Thomas L. Horner, to the *Briton;* Surgeon Alfred Patterson, to the *Mallard;* Surgeon Robert F. Yeo, to Malta Hospital, vice Ffrench Mullen; Surgeon Henry B. Collins, to Haslar Hospital, vice Yeo; Surgeon Francis G. Wright, to the *Briton;* Surgeon J. W. Tate, to be agent at Mullaghmore, vice O'Neil; Staff-Surgeon Joseph Wood, M.D., to the *Duke of Wellington*, in lieu of a surgeon, vice Horner; Staff-Surgeon A. Gorham, M.D., to the *Invincible*, in lieu of a surgeon, from date of promotion; Surgeon John Wood to the *Implacable*, vice Patterson; and Surgeon Joseph Crowley, to the *Audacious*, vice Wood.

MEDICAL NOTES IN PARLIAMENT.

Foot-and-Mouth Disease.

IN the House of Lords on Tuesday, Lord Spencer, answering a question put by Lord Lansdowne, explained the intentions of the Privy Council as to the orders relative to foot-and-mouth disease, which expired on the 31st ult.

In the House of Commons on Thursday, the 24th ult., petitions were presented in favour of the Alkali Works Bill from the Lancashire and Cheshire Associations, and against the Bill from owners and occupiers of cement works. For inquiry into the Indian Army Medical Department from L. F. Dickson and F. C. Barker.

On Friday, a petition for alteration of the Alkali Bill was presented from Macclesfield. Petitions were also presented as follow:—From the Irish Medical Association, against the Infectious Diseases Notification (Ireland) Bill; from Irish medical officers of health, for better observance of the Public Health (Ireland) Act, 1878; from dispensary medical officers, Ireland, for alteration of the law relating to vaccination in that country; and from Greenhithe, Brighton, and other places, for the prevention of vivisection. A return of deaths by starvation in the metropolitan district during 1880 was presented on the motion of Mr. John Talbot. Mr. Roger Leigh has, with Mr. Puleston, put down a notice of motion for the rejection of the Alkali Bill.

Fever Hospitals and Convalescent Homes.

Mr. R. Yorke asked the President of the Local Government Board whether, having regard to the statements made to him by a deputation on the 21st ult. on the subject of the prevalence of scarlet fever in the metropolis and the increase of centres of infection, owing to the absence of all provision for the reception of convalescents from that disorder, he would give that question his immediate attention; whether it was the duty of the Local Government Board to make provision for the establishment of convalescent homes in connexion with the fever hospitals of the Metropolitan Asylums Board; whether the existing state of the law admitted of that being done efficiently, and, if it did not, whether he would take immediate steps to obtain by legislation the necessary powers. Mr. Dodson would not fail to give attention to the matter. There was no duty imposed upon the Local Government Board to require the establishment of convalescent homes in connexion with the fever hospitals of the metropolis. Assuming that such homes could properly be considered hospitals for the sick, the Board would have a discretionary power in respect of them. Having regard, however, to the recent action which had been taken to suppress some of the small-pox hospitals, it was not likely that the Board would at this moment meet with much encouragement if it attempted to exercise such a power.

An Unfounded Charge.

In reply to Mr. J. G. Talbot, who put a question to the President of the Local Government Board respecting a charge made at a public meeting against the managers of the Metropolitan Asylum District of negligence in the management of the Small-pox Hospital at Fulham, Mr. Dodson said he was aware that a charge was made at a public meeting against the managers by a gentleman who stated in a letter that he had recently seen the nurses from the Small-pox Hospital at Fulham walking up and down the Seagrave-road in their working costumes among the children of his neighbours. He had since seen a copy of a letter written by the gentleman in question after attending a meeting of the hospital committee in which the whole matter was fully investigated. In that letter he expressed his satisfaction at finding that the persons whom he saw were not, as he imagined, nurses in the employment of the hospital. It was to be regretted that the same degree of publicity had not been given to this retractation as was given to the charge. Mr. Firth explained that he did not read the letter at length. It was one of many letters which were handed up to him as chairman, and it affirmed that the nurses of the hospital had been seen playing with the children in a particular street. An opportunity had not arisen of giving the explanation which was desirable.

On Monday, a petition against the abolition of vivisection was presented from British medical men in Rome. The second reading of the Alkali Bill was deferred to Thursday, as also was the Committee stage of the Blind and Deaf-mute Children Bill, upon which Mr. Paget has given notice of certain amendments.

Animal Vaccine.

Mr. P. A. Taylor asked the President of the Local Government Board whether it is a fact that there is no well-ascertained case of spontaneous cow-pox on record; whether it is a fact that the common practice for many years has been to inoculate the calf with the virus of human small-pox, thus causing, in the words of Sir Thomas Watson, "a vast amount of mitigated small-pox"; whether it is a fact that within the last few years the mortality from small-pox at the Hague and other cities in Holland and Belgium (whence he proposes to obtain fresh lymph) has been enormously large; and whether he will bring in a Bill to abolish compulsory vaccination. Mr. Dodson said he did not know what his hon. friend would consider a "well-ascertained case of spontaneous cow-pox," but cases of outbreaks of the disease amongst cows were specifically mentioned in the treatises on the subject, as well as in the evidence before the Select Committee in 1871. He was in-

formed that it was not a fact that the common practice had been for many years to inoculate calves with the virus of human small-pox. He had no statistics as to the mortality from small-pox in Belgium, but in Holland the mortality in the epidemic of 1870–72 was very large indeed. There was nothing to show what proportion of the cases were vaccinated, and it must be borne in mind that neither in Belgium nor in Holland was vaccination compulsory. He had no intention to bring in a Bill to abolish compulsory vaccination.

On Wednesday, a petition for inquiry into the subject of butter adulteration was presented from the Grand Jury of Cork. Mr. Dwyer Gray moved the second reading of the Infectious Diseases Notification (Ireland) Bill, which was accepted by the Government, on the understanding that it might be amended in Committee; and the Bill was read a second time without debate.

The Hampstead Hospital Case.

On Thursday Mr. Firth asked the President of the Local Government Board whether the statement made at the last meeting of the City of London Union that the costs of the recent Hampstead Hospital case amount to £40,000 to £60,000 has any foundation in fact, and whether he has now ascertained what is the estimated amount of such cost; and whether there is any and what statutory authority enabling the Metropolitan Asylums Board to expend the money of London ratepayers in such litigation, or upon what ground such expenditure is approved by the Local Government Board. Mr. Dodson said he did not know what the costs of the Hampstead Hospital case amounted to, but there could be very little doubt that the statement referred to in the question was a considerable exaggeration. The Metropolitan Asylums Board were advised that they had what was called a good defence, and probably if they had not taken the steps they did they would have been held to be greatly to blame. Mr. Firth said he should repeat the first portion of his question, and was proceeding to say that "we had to pay the money," when he was called to order.

Cholera from Butterine.

Mr. O'Shaughnessy asked the President of the Board of Trade if his attention had been called to the fact that an outbreak of cholera which has occurred in the town of Chicago has been attributed by physicians of that town to the use of butterine, into the composition of which lard enters largely, and to the statement made by these physicians that the process of making butterine does not require so high a temperature as to kill the germ of disease in lard; and whether the Government will take measures of precaution, by inspection of butterine and other similar commodities into this country, to prevent the dissemination of disease by their use. Mr. Chamberlain replied that he had been furnished with a copy of an American newspaper, and in one amongst a number of anonymous paragraphs he found a statement similar to that conveyed in the question. The statement, however, did not give the names of the physicians to whom this opinion was attributed, and there was no means of ascertaining whether they were persons of authority. He believed the medical opinion in this country was adverse to the opinion those anonymous physicians had expressed. As to the last part of the question, he had no evidence whatever which was trustworthy to show that any diseases were disseminated by butterine or other similar commodities.

BEQUESTS AND DONATIONS TO MEDICAL CHARITIES. Sir H. Watson Parker, late of East Sheen, Surrey, bequeathed, at the death of his widow, £1000 to the Richmond Hospital, £500 each to the Cancer Hospital and the Consumption Hospital, Brompton, the Richmond Dispensary, and the Royal Kent Dispensary. The Cumberland Infirmary, the Cumberland and Westmoreland Convalescent Institution, the Carlisle Dispensary, and the Whitehaven and West Cumberland Infirmary receive each £250 under the will of the late Mr. W. M. Bell of Sackville-street, London. Major F. W. Cartwright bequeathed £100 to the Northampton Infirmary.

A MEMBER of the New York Legislature has introduced a Bill to inflict a penalty on the keepers of hotels and boarding-houses who use oleomargarine, or other imitations of butter, without prominently displaying an announcement that they do not supply genuine butter.

CATGUT LIGATURE IN THE TREATMENT OF ANEURISM.

To the Editor of THE LANCET.

SIR,—Might I be allowed a few words in reply to Mr. Lane's letter in your last issue on the subject of the catgut ligature. It will be remembered that out of the three cases referred to by Mr. Lane the vessels in two instances were found patent at long intervals after the operation, while the third vessel was found closed. It would be quite out of place to rediscuss the general points suggested by these cases, and I would wish to allude merely to Mr. Lane's explanation of the unequal results. Mr. Lane says that it is clear to him "that the two failures arose from the ligature not being effectually applied." In these two cases a double hitch was used, followed by a single hitch; in the third case two single hitches were adopted. I quite agree with some of Mr. Lane's remarks anent the difficulties of the double hitch knot, and with those also made by Mr. Barwell in THE LANCET for March 5th. It seems to me that the use of this knot may prove in some cases inefficient; and in a series of experimental ligations of arteries made in the post-mortem room I certainly failed in one case to divide the inner coats with this particular knot, and used a good deal of force to effect that end in other cases.

But this possible source of failure does not affect the present cases. I presume that the efficacy of a ligature regarded simply as a *knot* tied to close a vessel depends mainly upon two factors—firstly, the possibility of its not slipping when once tied; and, secondly, its power of dividing the inner and middle coats when drawn tight. Now, of the two knots in question, I should imagine that the double hitch knot was by far the less likely to slip, and yet this knot was applied in the two cases where the vessels remained patent. With regard to the other point, in one of these two cases the coats were divided; in the other they were not. So far as I can see, therefore, the question remains somewhat in the same position as before.—Your obedient servant,

FREDERICK TREVES.

Gordon-square, W.C., March 29th, 1881.

THE BIRMINGHAM HOSPITAL FOR WOMEN.

To the Editor of THE LANCET.

SIR,—I regret to say that no other writer has been so anxious as I have been to give to Dr. Keith the full credit which is due to him for our present low mortality in ovariotomy. But Dr. Keith's cases can hardly be called hospital cases—at least, he does not publish them as such,—and, therefore, I was not including his results in the comparison.

At present we nearly equal his last results, and in friendly rivalry I hope to excel them—and all the more credit to him.

I am, Sir, yours &c.,

Birmingham, March 24th, 1881. LAWSON TAIT.

UNQUALIFIED PRACTITIONERS AND PRIVATE DISPENSARIES.

To the Editor of THE LANCET.

SIR,—In a recent number you drew attention to an inquest on a case in connexion with my dispensary. The accompanying extract from the local paper which first reported and commented on the case will show that the circumstances were strangely misrepresented. All the explanations which you say ought to have been forthcoming were fully and satisfactorily stated to the coroner at the inquest, though not reported, and all the arrangements which you very properly urge were in existence at the time, and are so now. The message to visit the patient was only delivered a few hours before her death; and the circumstances of the case being suspicious and mysterious it would have been highly improper to have given a certificate, even had I seen the girl myself.

I am, Sir, yours truly,

March 23rd, 1881. A. KISCH.

*** We gladly insert the above letter, feeling satisfied that in this instance reasonable endeavours are made to have patients attended by the principal, or, in his absence, by a qualified friend. The publication of the extract would make too great a demand on our space.—ED. L.

IRELAND.

(From our own Correspondent.)

THE Secretary of the Public Health Committee of the Corporation of Dublin has recently made a report on the system adopted at Steevens's Hospital for the disinfection of clothing, bedding, &c., used by patients suffering from infectious diseases. On the occasion of his visit to the hospital there were twenty-seven patients in the fever ward all suffering from scarlatina, and all of them members of the constabulary. Ten patients were in each of the two wards, the cubic space for each being under 600 ft. There was no convalescent ward, and acute and convalescent cases consequently occupied the same apartment. These constabulary patients on admission wear civil clothing, of which they do not possess more than one suit, but a loose overcoat is supplied by the constabulary authorities, and this is worn by the patients during convalescence; so that during the desquamative stage they must resume their civil clothing, and continue to wear it until their return to the constabulary depôt. It follows from this that the disinfection of these patients' clothing during their illness is rendered practically ineffectual, and that their garments are likely to carry infection to others. It is further stated that the attention of the governors of this hospital was several months since directed to the danger that must result from mixing infected with disinfected articles, and that the suggestion was disregarded. The Public Health Committee have strongly recommended the governors to provide proper measures of disinfection on their own premises, to separate infected from disinfected clothing, and not to permit the men to leave the hospital wearing the clothes which had been subject to the risk of infection.

Dr. MacCabe, Local Government Board Inspector, in a recent report on the condition of the North Dublin Union for the six months ending 31st December last, states that its crowded condition had probably exercised an unfavourable influence upon the sanitary condition of the workhouse during the period referred to. Typhus fever prevailed extensively amongst the lower classes of the city, and many destitute persons were admitted to the workhouse when suffering from premonitory symptoms of typhus. It frequently occurred that applicants for admission were not aware of their condition, and the symptoms they presented were not sufficiently advanced to warrant the medical staff in transferring them to a fever hospital until some days after their admission; and while such persons remained under observation in the workhouse it is probable that zymotic diseases were by them communicated to other inmates.

At the close of the past year there were 1022 inmates in the Richmond District Lunatic Asylum, and no increase in the accommodation for lunatics has been called for since 1874, during which year it was raised from 1040 to 1100 beds. The admissions in the past year have been 420, or 15 less than in 1879, but the number admitted for first attacks has been exactly the same in both years; whilst the admissions of relapsed cases have been only 65 in the past year, against 80 in the year preceding. One hundred and sixty-seven were discharged cured (or 39$\frac{4}{10}$ per cent. of recoveries on admissions, and 11$\frac{4}{10}$ on total number in asylum), and 81 improved, while the unimproved or incurable were 10. The mortality amounted to 138, all from natural causes, a number equal to 32$\frac{5}{10}$ per cent. on admissions, and 9$\frac{5}{10}$ on total in asylum. Thoracic affections formed a large proportion of the causes of death—viz., 66, while cerebral and cerebro-spinal affections produced but 24 deaths—a circumstance which has not escaped the notice of Dr. Lalor, the resident medical superintendent, who observes that with those labouring under a mental affection of which organic disease of the nervous centres is by many supposed to be the chief factor, the deaths from cerebral and spinal affections are comparatively few. The pathology of insanity, he adds, is, in truth, only in its infancy, and the part which the blood circulating in the brain plays in cerebration, and the variations produced in the phenomena of mind by diversities in the qualitative and dynamical conditions of that fluid, appear to him to present a large field for investigation, which has by no means been largely cultivated.

During the quarter ended December 31st last there were registered in the 801 registrars' districts in Ireland 27,582 births, a number equal to an annual birth-rate of 20·7 in every 1000 of the estimated population, and 22,226 deaths, representing an annual rate of 16·7 per 1000. The birth-rate in Ireland was under the average of the rate for the corresponding quarter of the previous five years to the extent of 2·9 per 1000 of the population; while the death-rate for the quarter was below the average of the fourth quarter of the five years 1875–9 by 0·3 per 1000.

PARIS.

(From our own Correspondent.)

THE protests against the dismissal of the religious communities from the hospitals have been met by a counter-protest from those who are in favour of the measure. This document is worded as follows:—"Monsieur le Directeur Général—At the present moment, when the question of the *laïcisation* of hospitals is attracting attention, we believe that we accomplish an act of honesty in stating the result of our experience. After having directed in other establishments services which were placed in the hands of the sisters, we are now attached to hospitals organised after the new system, which has been in vogue at Laennec for the last two years, and at La Pitié for six months; and we are pleased to acknowledge that we are satisfied with the intelligence and devotion of the *personnel* under our orders. It is therefore possible to affirm, from a knowledge of facts, that all the professional qualities necessary for the performance of their duties may be met with in lay superintendents and their subordinates." The signatures which follow are eight in number, comprising four professors of the faculty, MM. Verneuil, Peter, Brouardel, and Ball, and four *agrégés*, MM. Cornil, Damaschino, Le Groux, and Nicaise. Whether they will be able to rally any more adherents remains to be seen, but as yet they only form a numerically insignificant minority. The editor of the *Progrès Médical*, however (whose journal has become, with the *Tribune Médicale*, the official organ of *laïcisation*), is thankful for small mercies, and attaches the greatest importance to this new declaration, which is, indeed, probably the only justification the Assistance Publique can bring forward of the action they intend to pursue. Of course, the question of liberty of opinion is imported into the matter; and it is nominally for the sake of religious and political liberty that a competent staff of nurses, courageous enough to suffer for their faith, are to be replaced by more docile instruments. At the Municipal Council an appalling instance of the proselytising tendencies of the Sisterhoods was related by M. Quentin. At the Necker Hospital a nun was conversing with a young servant. "Do you go to the mass?" "No; my masters have forbidden me." The nun thought this was damnable, and tried to prevent the servant returning to her employers—tried to turn her from her duty. "We cannot permit this," added the speaker. Such an anecdote tells much more against the master who perverts a girl from what nine Frenchwomen out of ten would consider a religious *duty* than against the nun; and it affords a good idea of what such men understand by the religious liberty hereafter to be enjoyed in hospitals.

The annual fancy-dress ball for the patients of the Salpétrière took place last week, and a full report of the proceedings was given in an evening paper, *Le Temps*. As on the last occasion, no attacks of any kind had occurred for some time past, the patients being too busy in the preparation of their dresses to carry on their usual performances. "Why," inquired the *Temps* reporter of Dr. Legrand du Saulle, "if the *fête* procures a month's repose, is it not adopted as a means of treatment—treatment by pleasure?" "The expense is too great," was the reply. The entertainment to-night costs more than a thousand francs!

Paris, March 30th, 1881.

EXTENSION OF RAINHILL ASYLUM.—At the forthcoming annual meeting of magistrates a motion will be submitted for the extension of Rainhill Asylum, to admit a thousand more patients, and £120,000 will be borrowed for the purpose.

THE six European countries which forbid the importation of American pork are Spain, Portugal, Italy, France, Greece, and Switzerland.

Medical News.

INDIAN MEDICAL SERVICE. — The following is a list of candidates who were successful at the competitive examination held at Burlington House on Feb. 14th :—

1. H. I. Griffiths.
2. F. D. C. Hawkins.
3. A. Milne.
4. J. A. Cunningham.
5. A. G. E. Newland.
6. H. C. Hudson.
7. P. Mullane.
8. A. Silcock.
9. R. I. Baker.
10. J. W. Rodgers.
11. R. G. Cooper.
12. M. B. Braganza.
13. H. W. Stevenson.
14. W. A. Corkery.
15. A. J. L. Patch.
16. R. Ross.
17. S. T. Avetoom.
18. C. A. Adams.
19. J. F. Maclaren.
20. J. K. Kanga.
21. E. R. Da Costa.
22. A. J. O'Hara.

APOTHECARIES' HALL. —The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 24th :—

Callaway, James, City-road.
Moore, Alexander Matthew, Newcross-road.
York, Thomas Hutten, Brady-street, Bethnal-green.

The following gentlemen also on the same day passed the Primary Professional Examination :—

William Isaac Haddock and Frederick Lucius Nicholls, Charing-cross Hospital; Reginald Whiteside Statham, St. Thomas's Hospital.

A COTTAGE hospital has been opened at Llandrindod Wells, Radnorshire.

CAMBRIDGE UNIVERSITY. — On March 24th the degree of Bachelor of Medicine was conferred on Frank Montagu Pope, Magdalene.

THE late Mr. Courtauld of Gosfield Hall, has, we are informed, left his medical attendant, Mr. Taylor of Bocking, Essex, the sum of £500.

MR. C. E. HOBBES of the Alcester and Evesham Unions, has received, for the fourth time, the Government grant for efficient vaccination in his districts.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest*

BEVAN, W. Ll. P., M.B., C.M., has been appointed House-Surgeon to the Wallasey Dispensary [not the Dorset County Hospital, as announced in our last].

BLANDFORD, J. W., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Norton District of the Stockton Union.

CARDEN, G. A., M.R.C.S.E., L.S.A.L., has been appointed Honorary Medical Officer to the Branch Dispensary of the Cheltenham General Hospital, vice Spurway, resigned.

CATHCART, C. W., M.B., F.R.C.S.E., has been appointed Lecturer on Anatomy in the Royal College of Surgeons, Edinburgh, vice Handyside, deceased.

CHAPMAN, J. H., M.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer to the Hospital for Incurables, Dublin, vice Peele, deceased.

CHURCHILL, J. F., L.R.C.P.I., M.R.C.S.E., L.S.A.L., has been re-appointed Medical Officer for the Second District of the Amersham Union.

DAVIES, D., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health to the Bristol Port Sanitary Authority.

FENTEM, P. S., M.D., M.R.C.S.E., has been reappointed Medical Officer of Health for the Northern Division of the Bakewell Rural Sanitary District.

HAYWARD, J. R., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the All Saints' District of the Maldon Union.

JEFFREYS, R., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Bampton and Walton District of the Chesterfield Union.

KEENE, F., L.R.C.P.I., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Aylesbury Rural Sanitary District.

KNOX, J., M.D., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the Southern Division of the Bakewell Rural Sanitary District.

MCGEAGH, W., M.D., M.Ch., M.R.C.S.E., has been appointed Honorary Assistant Medical Officer to the Ladies' Charity and Lying-in Hospital, Liverpool.

MEERES, E. E., M.D., M.R.C.S.E., L.S.A.L., has been appointed Physician to the Plymouth Public Dispensary, vice Thorold, resigned.

MALLEY, A. C., M.B., M.Ch., has been appointed Medical Officer for the Munslow District of the Ludlow Union.

MORCOM, —, L.R.C.S.Ed., L.S.A.L., has been reappointed Medical Officer of Health for the Luton Rural Sanitary District.

NEWSHOLME, A., M.B., M.R.C.S.E., has been appointed Surgeon to the City Dispensary, vice J. A. Kingdon, F.R.C.S., resigned.

PARSONS, F. J. C., L.R.C.P.I., M.R.C.S.E., L.S.A.L., has been re-appointed Medical Officer of Health to the Bridgwater Port Sanitary Authority.

Births, Marriages, and Deaths.

BIRTHS.

DAWSON.—On the 24th ult., at Hyde-park-gardens, W., the wife of Velverton Dawson, M.D., of a daughter.

LAWRENCE.—On the 24th ult., at Chesfield, Hadlow, Kent, the wife of H. M. Lawrence, L.R.C.P.Ed., L.R.C.S.Ed., of a son.

LUKIS.—On the 26th February, at Barrackpore, Calcutta, the wife of Surgeon C. P. Lukis, Bengal Medical Service, of a daughter.

SCOTT. — On the 28th ult., at Lancaster House, Lincoln, the wife of W. E. Scott, L.R.C.P. &c., of a daughter.

WALLACE.—On the 21st ult., at Clockheaton, Yorkshire, Constance, the wife of Edward J. Wallace, M.D., of a son.

MARRIAGES.

BOTHAMLEY—DUNN.—On the 26th ult., at St. Antholin's Church, Nunhead, William Parkinson Bothamley, M.R.C.S.E., L.S.A.L., of Donington, Lincolnshire, to Elizabeth Ann, eldest daughter of W. Dunn, Esq., of The Newlands, Peckham-rye.

EDDISON—DOUGILL.—On the 29th ult., at the Parish Church, Almondbury, near Huddersfield, John Edwin Eddison, M.D., of Park-square, Leeds, to Elizabeth, eldest daughter of the late John Dougill, of Finthorpe, Almondbury.

MAXWELL — RITCHIE. — On the 21st ult., at 8, Whitehouse-terrace, Edinburgh, by the Rev. W. L. Riach, Charles M. Maxwell, M.R.C.S.E., L.S.A.L., of Broomieknowe House, Lasswade, N.B., to Rossie Milne, fifth daughter of the late George Ritchie, of Edinburgh.

NESBITT—GRESHAM.—On the 23rd ult., at Derrylin, County Fermanagh, Dawson Nesbitt, M.D., of Cambridge-place, Hyde-park, to Emily, second daughter of the late William Henry Gresham, of Glenwood, Lucan, County Dublin.

THOM—AITKEN.—On the 24th ult., at Oaklands Crieff, N.B., by the Rev. J. R. Omond and F. C. Monzie, Alex. Thom, jun., M.A. St. And., M.B. & C.M. Ed. (son of Dr. Thom, of Ivy Lodge, Crieff), to Helen, daughter of Mark Aitken, of Oaklands.

VACHER—BRAIDWOOD.—On the 30th ult., at St. Mary's, Hornsey-rise, London, Francis Vacher, F.R.C.S.Ed., Medical Officer of Health for Birkenhead, to Isabella, younger daughter of the late Rev. J. Braidwood, M.A. No cards.

DEATHS.

LEVICK. — On the 23rd ult., at West Ham, Essex, George Levick, M.R.C.S.E., L.S.A.L., in his 40th year.

MERRIMAN.—On the 24th ult., at West Lodge, Putney-common, after a few hours' illness, John Merriman, M.R.C.S.E., L.S.A.L., Apothecary Extraordinary to the Queen, aged 80.

WEBB.—On the 29th ult., at The Vicarage, Heckmondwike, Yorkshire, Edward Charles Webb, Surgeon, second son of the Rev. George Mower Webb, B.A., Vicar of Heckmondwike, aged 36.

WHATELY.—On the 24th ult., at Gainsborough, Torquay, Edward Whately, M.R.C.S.E., aged 61.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, & COX, London.

Aids to Diagnosis. Part I.: Semeiology. By Dr. J. M. Fothergill. Part II.: Physical Diagnosis. By Dr. J. C. Thorowgood. pp. 75–61.

Aids to Rational Therapeutics. By Dr. J. M. Fothergill. pp. 121.

Fasting and Feeding Psychologically Considered. By L. S. Forbes Winslow, M.B. Cantab. pp. 63.

BOGUE, DAVID, London.

The Detection of Colour-blindness and Imperfect Eyesight. With Table of Coloured Berlin Wool and Sheet of Test Types. By C. Roberts, F.R.C.S.

CHURCHILL, J. & A., London.

Manual of the Physical Diagnosis of Diseases of the Heart. By A. E. Sansom, M.D. Lond. Third Edition. pp. 300.

A Manual of what every Mother should know. By Ed. Ellis, M.D. pp. 129.

Dysmenorrhœa, its Pathology and Treatment. By Heywood Smith, M.A., M.D.Oxon. pp. 122.

Lectures on Diseases of Bones and Joints. By C. Macnamara, F.R.C.S. Second Edition. pp. 551.

DE LA RUE & Co., London.

The Factors of the Unsound Mind, with Special Reference to the Plea of Insanity in Criminal Cases and the Amendment of the Law. By Wm. A. Guy, M.B. Cantab., F.R.S. pp. 282.

FAIRFAX COMPANY, London.

Essays, Hints, and Observations on Personal Economy, Diet, and Hygiene. p. 120.

JOHNSTON, W. & A. K., Edinburgh and London.

The Relations of the Abdominal and Pelvic Organs of the Female. Illustrated by a full-sized Chrome-lithograph of the Section of a Cadaver Frozen in the Genu-pectoral Position, and by a Series of Woodcuts. By Prof. A. R. Simpson and Dr. D. B. Hart.

LEWIS, H. K., London.

Refraction of the Eye, its Diagnosis and the Correction of its Errors; with a Chapter on Keratoscopy. By A. Stanford Morton, M.B., F.R.C.S.Ed. pp. 57. With Diagrams.

LIPPINCOTT, J. B., & Co., Philadelphia.

Fever: a Study in Morbid and Normal Physiology. By H. C. Wood, A. M., M.D. pp. 258. With 5 Plates.

Medical Diagnosis, with special reference to Practical Medicine. By J. M. Da Costa, M.D. Fifth Edition, Revised. pp. 924. With Illustrations.

LONGMANS, GREEN, & Co., London.

Transactions of the Obstetrical Society of London. Vol. XXII. pp. 315.

Transactions of the National Association for the Promotion of Social Science. Edinburgh Meeting, 1880. pp. 880.

MACMILLAN & Co., London.

Bovine Tuberculosis in Man: an Account of the Pathology of Inspected Cases. By Charles Creighton, M.D. pp. 119. With Illustrations.

The School Cookery Book. Compiled and Edited by C. E. G. Wright. pp. 158.

Collected Works of Francis Sibson, M.D. Edited by W. M. Ord, M.D. In 4 vols. Illustrated.

MARSHALL, JAPP, & Co., London.

Vivisection Scientifically and Ethically Considered, in Prize Essay, by Dr. J. Macaulay, Rev. B. Grant, and Abiathar Wall. pp. 317.

MORTON & Co., Louisville.

Aphorisms in Fracture. By R. O. Cowling, M.D. pp. 70.

MURRAY, J., London.

The Cat: an Introduction to the Study of Backboned Animals, especially Mammals. By St. George Mivart, Ph.D., F.R.S. pp. 557. With 200 Illustrations.

OLIVER & BOYD, Edinburgh.

Transactions of the Edinburgh Obstetrical Society. Vol. V. Illustrated.

PAUL, C. KEGAN, & Co., London.

Concise Handbook of the Island of Madeira, with Plan of Funchal and Map of the Island. By J. M. Rendell. pp. 84.

PUTNAM'S SONS, New York.

Clinical Lectures on the Physiological Pathology and Treatment of Syphilis. By F. N. Otis, M.D. pp. 116.

WOOD, W., & Co., New York.

A Clinical Treatise on the Diseases of the Nervous System. By Prof. M. Rosenthal. With a Preface by Prof. Charcot. Two vols. pp. 278-277.

A Treatise on Foreign Bodies in Surgical Practice. By Alfred Poulet, M.D. Two vols. pp. 320-271. Illustrated.

A Treatise on the Materia Medica and Therapeutics of the Skin. By H. G. Piffard, M.D. pp. 351. With Illustrations.

The Coroner's Office: an Address by C. Bell. (Mead, New York.)—Revista Especial de Oftalmologia, Sifilografia to Dermatologia, y Afecciones Urinarias. — Neurological Contributions; by William Hammond, M.D., assisted by William J. Morton, M.D., Vol. III. (Putnam's Sons, New York.)—The Scientific Roll; conducted by Alex. Ramsay, F.G.S.—Fraser's Magazine, March and April.—Girl's Own Paper, March and April.—Friendly Greetings, March and April.—Good Words, March and April.—Sunday Magazine, March and April.—De las Pneumoconiosis; por Rosalino Rovira y Oliver.—Monthly Homœopathic Review, March.—Maladies Cancéreuses; Observations par le Dr. G. Von Schmidt. (Berthier, Paris.)—Contemporary Review, March. (Strahan & Co.)—Archives of Laryngology. Archives of Otology. (Putnam's Sons, New York.)—The Veterinarian, March. (Longmans.) Notes on Books. (Longmans & Co.)—Silverlock's Medical Reference Book; edited by G. Brown, M.R.C.S.—The Practitioner.—Bulletin Récapitulatif de Statistique Municipale, Paris.—Sixteenth Annual Report of the Sanitary Commissioner with the Government of India, 1879.—The Weather of 1880; by Ed. Mawley, F.M.S. (Bemrose.)—Del Lattime; Considerazioni Pratiche del Dottor Paventa Francesco. —Congenital Syphilis of the Throat; by Dr. J. N. Mackenzie.—Twenty-five Consecutive Cases of Ovariotomy; by Dr. J. Homans.—Columna Adiposa; by Dr. J. C. Warren.—Anales del Circulo-Medico Argentino.—A Review of the Facts and Records in connexion with Kitchen-boiler Explosions, &c.; by S. B. Goslin, F.M.S.—Freidrich Robert Wilms: in Memoriam, von P. Gueterbock.—Journal of Physiology.—Popular Science Monthly.—Annual Report of the Pharmaceutical Society of Victoria.—What Science is saying about Ireland. (Long & Co., Kingston-upon-Hull)—Index Medicus, Vol. III., No. I. (Leypoldt, New York.)—Transactions of the American Ophthalmological Society.—Compulsory Medical Inspection of all Schools; by Dr. Roth.—Notes on Rickets and Rickety Deformities, by Dr. Roth.—Colorado for Invalids; by S. E. Solly, M.R.C.S. Eng.—The Natural History of the Cranes; by the late Ed. Blyth, C.M.Z.S.; greatly Enlarged and Reprinted, with numerous Illustrations by W. B. Tegetmeier, F.Z.S.—Some of the Unsettled Questions concerning Nasal Catarrh; by Dr. F. H. Bosworth. (New York.)—The Fungoid Origin of Epidemics; by Dr. M. W. Taylor.—Contributions to the Physiology and Pathology of the Nervous System (Part III.); by Dr. Isaac Ott.—Ueber das Vorhalten des Malariafiebers in Pola; von Dr. A. R. von Jilek. (Wien.)—River Water: a Reply to Dr. Frankland; by C. M. Tidy, M.B.—Medical Reports of the China Imperial Maritime Customs; No. II., Special Series.—Malformations of the Œsophagus; by Morell Mackenzie, M.D.—The Northern Microscopist, April.—La Bourboule Actuelle; par le Dr. Ad. Nicolas. (Masson, Paris.)

Medical Diary for the ensuing Week.

Monday, April 4.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

ROYAL INSTITUTION.—5 P.M. General Month y Meeting.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. The President (Dr. Broadbent) will exhibit a Patient suffering from Double Facial Paralysis. —Dr. W. H. Day, "On Tubercular Meningitis and the Mode of Treatment."—Dr. R. J. Lee, "On Cutaneous Diseases in Infants and Young Children."

Tuesday, April 5.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 3 P.M.

ROYAL INSTITUTION.—3 P.M. Professor Edward A. Schäfer, "On the Blood."

PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following specimens will be shown:—Carcinoma and Adeno-fibroma of Breast, Hyaline Myxoma, Odontoma, Nasal Epithelioma, &c. (card); Cranium and Brain of Hydrocephalic Adult; Case of Pulsation in Hepatic Region (living specimen); Aneurism of Pulmonary Artery (card); Dermoid Tumour of Soft Palate; Case of Lupus (living specimen); Abscess of Liver following Dysentery; Unreduced Dislocation of Patella (card).

SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND SCIENCES.—Mr. William Westgarth, "On Trade Relations between Great Britain and her Dependencies."

Wednesday, April 6.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Lumleian Lectures: Dr. Southey, "On Bright's Disease."

HUNTERIAN SOCIETY.—7.30 P.M. Council Meeting.—8 P.M. Dr. Hughlings Jackson will exhibit Cases of Disease of the Spinal Cord.—Dr. Port, "On a Case of Disseminated Sclerosis."

EPIDEMIOLOGICAL SOCIETY.—8 P.M. Deputy Surgeon-General Joseph Ewart, "On Scrofula, Tuberculosis, and Phthisis in India."

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by the President, Drs. Godson and Cory, and Mr. Alban Doran.—The Discussion on Dr. Barnes's paper "On Missed Labour" will be resumed, after which "A Case of Delivery through an Imperforate Vagina," by Dr. Heywood Smith, and other communications.

Thursday, April 7.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.

NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

ROYAL INSTITUTION.—3 P.M. Mr. H. H. Statham, "On Ornament."

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—3 P.M. Living Specimens.—Dr. Hughlings Jackson, "On a Case showing the state of the Discs ten years after recovery from Optic Neuritis." Mr. Waren Tay, "On a Case of Disease at Yellow-spot Region in an Infant."—Report of the Committee on Colour Blindness (presented by Dr. Brailey).

LINNEAN SOCIETY.—8 P.M. Dr. Cobbold, "On Parasites of Elephants."

HARVEIAN SOCIETY.—8½ P.M. Dr. T. C. Hayes, "On Fibrous Polypus of Uterus."—Dr. Cheadle, "On the Treatment of Empyema."

Friday, April 8.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Lumleian Lectures: Dr. Southey, "On Bright's Disease."

ROYAL INSTITUTION.—3 P.M. Professor Tyndall, "On Conversion of Radiant Heat into Sound."

CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. B. O'Connor, "On a Case of Syphilitic Psoriasis."—Mr. Rushton Parker, "On a Case of Arterial Hæmatoma of the Forearm."—Dr. Stevenson, "On a Case of Meningocele" (patient will be shown).—Mr. J. H. Morgan, "On a Case of Progressive Painful Inflammation of the Arteries."

Saturday, April 9.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Rev. H. R. Haweis, "On American Humorists."

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, March 31st, 1881.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 25	29·40	N.W.	40	35	..	48	34	·04	Cloudy
,, 26	29·80	N.W.	36	33	..	46	30	..	Hazy
,, 27	30·04	E.	41	36	..	47	28	..	Bright
,, 28	29·90	E.	38	34	..	49	29	..	Hazy
,, 29	29·76	E.	40	36	78	57	31	..	Hazy
,, 30	30.06	N.E.	37	34	68	46	28	..	Hazy
,, 31	30·05	E.	40	35	81	48	34	..	Overcast

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

FOOD AND DISEASE.

DR. SEATON, Medical Officer of Health for the borough of Nottingham, gave last week to the members of a local temperance society an interesting lecture on diseases spread by means of food. Such diseases he classed into the parasitic and the zymotic. He sketched the history of the trichina spiralis, and referred to the communication of Dr. Wortabet, published in THE LANCET of March 19th, as containing a striking illustration of the efficacy of thorough cooking of food in destroying the parasite. Dr. Seaton then alluded to the cases of pork infection that had recently occurred at Welbeck and at Nottingham. These had no relation to the disease of which he had been speaking—trichinosis. They were caused by most minute microscopic particles closely resembling other microscopic particles which during the last few years had been shown to be the cause of some of the zymotic infectious diseases, as, for instance, the relapsing fever of man, the anthrax of cattle, which, in the form of woolsorters' disease, affected man also. The lecturer set forth more in detail the relation of the spirilla to relapsing fever and the probability of its being connected with its causation. He also spoke of the identity between the bacillus anthracis and that of woolsorters' disease as a thing which, if not absolutely proved, was in the highest degree probable; and described the process of fermentation and the nature of disease germs (a subject treated of in another column).

DISPENSARY PRACTICE.

To the Editor of THE LANCET.

SIR,—I can fully endorse the opinions of L.R.C.P. relative to the above, but there are also other snares which the unwary purchaser should be guarded against. Many, if not the major portion of dispensaries, are started and pushed on by qualified men, ne'er do weels in the usual routine of regular practice, with the view of showing good receipts, and as soon as their desideratum is obtained, of selling them at the best marketable value. Such, oftener than not, rapidly fall off in receipts. I myself became entangled in partnership in a similar undertaking, and now find partner is oftener more fit to be doctored than to doctor, through a considerable *penchant* for alcoholic stimulants. The consequences likely to accrue from such conduct one does not care to contemplate, especially when a good sum has been paid down for the privilege of joining another in such rough-and-ready work as dispensary practice.

I am, Sir, yours faithfully,

March, 1881. L.R.C.S.I.

THE SO-CALLED SMALL-POX IN CHICKENS.

MR. WILMOT H. T. POWER, B.A., M.R.C.S., communicates to "Hardwicke's Science Gossip" the following note:—"In Mauritius large numbers of the chickens are reduced to mere skeletons, with a dry scaly eruption on the skin, leaving more or less bald patches, especially about the head and neck. I found this was due to the presence of lumbrici in such numbers that the interior of the intestines was so irritated as to be as red as a soldier's tunic; emaciation and eruption were due simply to starvation. At one station we kept our poultry in a large enclosure covered over with a net, and taking care none but clean water, and frequently changed, was given them. We had no disease, and fine chickens. About 100 yards off at a lighthouse, it was always present, but the poultry there drank from a very dirty small pool. I feel inclined to say Mauritius had degenerated from being the land of the dodo to the land of the lumbrici."

Mr. Partridge.—Thanks.

Norman.—No.

Mr. Jos. Moore.—It is purely a matter of agreement.

"THE CASE OF PROBABLE POISONING BY COLCHICUM."

To the Editor of THE LANCET.

SIR,—In a letter published in your issue of March 19th, Mr. Linnington Ash, referring to this case, speaks of muscular twitchings as "the distinctive symptom of the influence of colchicum." Will you allow me, through your columns, to ask Mr. Ash on what authority he founds this assertion? I find no mention of this symptom in such works on Toxicology as I have access to. I believe cases of colchicum poisoning not unfrequently end with convulsions immediately preceding dissolution; but, as a general rule, nervous symptoms of any kind other than these are rare. Mr. Ash, however, appears to found his opinion that this case was not one of poisoning by colchicum on the fact that no muscular twitchings appeared in the early part of the case.

Your obedient servant,

G. M. WASSE, M.R.C.S. Eng.

Knighton, Radnor, March 25th, 1881.

TREATMENT OF FRACTURED PATELLA WITH HIDES' PATENT PERFORATED FELT SPLINT.

To the Editor of THE LANCET.

SIR,—The success I have had with Hides' patent felt splint in the treatment of bow-legs in children has induced me to dip with it more deeply into surgery in the treatment of fractured patella as a fixture for the knee-joint. Although this fracture is not a very common occurrence, and seldom comes within the scope of the general practitioner, yet in hospitals it is common enough; and even there some difficulty exists in keeping the fragments in position, which in all cases is all that is necessary. Every surgeon knows very well the treatment recommended in this fracture, and I believe will admit the difficulty of producing a case of union, at most only ligamentous to a more or less extent.

I claim for Hides' patent splint an improvement (if only in comfort to the patient) on Malgaigne's treatment with hooks, which up to the present is the only sure means of keeping the fragments in undisturbed position, but without the pain and inconvenience of having four hooks inserted into the bones through the integument, a great discomfort to the patient, if not requiring removal altogether after a short time by the irritation they produce. Besides, Malgaigne's hooks if they can be borne are only useful in cases of transverse fracture. Should it happen to be oblique and partly vertical, in three portions they become perfectly powerless, in which case my treatment will answer quite the same.

This splint, when properly applied, should not be attempted for a week, or until the inflammation subsides, and then in two parts, anterior and posterior, meeting within half an inch at both sides. They should be shaped on a sound limb, about the same size, taking particular care while doing so that the felt in its soft condition is pressed with the two hands firmly around the patella, so as to drive the synovial fluid puffed out during extension back into the joint, when it will take the exact mould of the patella and retain it when cool. Should the splints not fit the knee for which it is intended, it should be warmed before a fire and held in its position on the knee for two or three minutes. When the parts are properly moulded and trimmed, it is only necessary to line them with coarse flannel or saddle lining serge, and have a one and a half inch strap with buckle attached above and below the knee, about six inches apart; then the joint will become firmly fixed, without undue pressure. The patella is surrounded as in a socket, with no possible chance of the fragments separating. Another great advantage is obtained by the even pressure on the quadriceps, the splint extending for at least six inches from the centre of the patella, thus preventing their action by nervous twitching during sleep.

The patient may get about after three weeks and walk with a fixed knee, continuing to wear the splints as long as may be considered necessary.

I am, Sir, yours &c.,

Chelsea, March 28th, 1881. HENRY FISHER, M.D.

DRUGGISTS' CHARGES.

THE *Bristol Mercury* inserts the letter of a physician to a London contemporary, who complains that a druggist had charged a patient—a respectable but poor married woman for whom he had prescribed gratuitously—eighteenpence for a box of ointment. The physician sees in such charges one of the great obstacles to the poor getting proper supplies of drugs, and therefore one of the explanations of their being driven wholesale to public charities. There is some truth in this. The charges are absolutely prohibitive in many cases, and just in those cases where the supply of drugs is most urgent—where drugs, in fact, come to be something very like food. But this is an old complaint, and the druggists are more conservative in their system of charges than medical men.

CHRYSOPHANIC ACID IN PSORIASIS.

To the Editor of THE LANCET.

SIR,—As I was the first investigator of the effect of chrysophanic acid in psoriasis, may I be permitted to offer a comment on the ingenious suggestion offered in your columns of last week by "A Student of Materia Medica." He suggests that the effect obtained in Professor Charteris's experiment with the drug shows that the drug acts constitutionally as well as locally, and thus seeks to explain why it is that in Professor Charteris's experiment the ointment cured also that half of the body to which it had not been applied. The suggestion is well worth considering; but I may remark that, although a "one-sided" application of chrysophanic acid ointment has been often tried, the effect noted by Professor Charteris had not, so far as I am aware, been observed before. Then, again, the constitutional effects of chrysophanic acid (administered, it is true, in persons not the subjects of psoriasis) have been carefully investigated by a very able and well-known observer, Mr. Ashburton Thomson, who administered the drug in doses of, I think, ten grains in one hundred cases, and who found it to act only as an emetic purge. Now, since I first brought under notice the remarkable effect of chrysophanic acid ointment in psoriasis it has been used all over the world and by the most competent observers, and its effects have been recorded in almost every medical journal, British and foreign, and no one has spoken of emesis or purging as having ever followed its external use.

Now, let it be supposed that some one should advance that the external use of tar in psoriasis should depend in some degree on its "constitutional" effects, then I could answer him I am in a position to say that I have administered tar internally *ad nauseam*, and even so long (a month or more) that I felt constrained to employ it no longer, and yet I have found that thus employed it has no influence whatever in the amelioration of psoriasis. I do not apprehend that chrysophanic acid administered internally would have any better effect on psoriasis. Still, so far as I know, the experiment has never been tried, and it is quite possible that it might succeed.—Yours obediently,

March 28th, 1881. BALMANNO SQUIRE.

To the Editor of THE LANCET.

SIR,—A Medical Student in Materia Medica, Glas. Univ., has drawn attention to an interesting point in a case of psoriasis, which Dr. Crocker brought before the Medical Society of London, which he had treated, one extremity with chrysophanic acid—one drachm to the ounce—the other with turpentine. We know that the system is affected by drugs—viz., by the inunction of mercury it is soon affected, but it is hardly probable that the small dose of chrysophanic acid that would enter the system from the inunction in Dr. Crocker's case would affect the system so much as to relieve the opposite extremity so thoroughly. It seems to me more likely that the turpentine relieved the eruption in his case, as I have repeatedly used the pure spirits of turpentine of the strength of one and two drachms to the ounce of vaseline with marked good effect in psoriasis; and the relief of the opposite extremity to that treated by chrysophanic acid was in all probability due to the turpentine. As Dr. Crocker justly remarks, almost any outward irritant will benefit the affection, but, at the same time, these cases require careful internal treatment; as in my experience they only return to us again after a longer or shorter period, for, as the patients often say, "it only drives the eruption in." There is no doubt whatever that chrysophanic acid is a valuable drug in carefully chosen cases of psoriasis.

I am, Sir, yours truly,

Sackville-street, W., March 29th, 1881. JAMES STARTIN.

To the Editor of THE LANCET.

SIR,—The point raised by a Glasgow Student in your last issue is, I think, worthy of attention. He informs us that Dr. Charteris believes that the acid acts constitutionally as well as locally, and he furnishes us with facts that seem to prove that theory. The theory is, I believe, erroneous, because during several years in which I acted as clinical clerk at the Western Infirmary and Dispensary for Skin Diseases, Glasgow, no such effects were observed.

Dr. McCall Anderson often presented the acid to one side of the body, while to the other thymol or other agent was applied, the result being that the side to which the acid was applied always improved much more than the other, which, indeed, in some cases did not improve at all. Thymol, it may be remarked, was shown to have a slight effect either when used alone or to one side of a patient to whom the acid was prescribed for the other side.

Dr. Radcliffe Crocker's case, in which benefit was derived from turpentine, is not thus to be explained, but it is probable that the turpentine has some curative effect.—I am, Sir, yours, &c.

Southport, March 29th, 1881. CHARLES PEMBERTON, M.B.

MEDICAL CHARITIES AND PRIVATE PRACTICE IN GLASGOW.

To the Editor of THE LANCET.

SIR,—Kindly allow me space for a few remarks suggested by the experience of a few months' practice in Glasgow. I refer, first, to "medical charities," particularly out-door dispensaries. That dispensaries have a demoralising effect upon the industrial classes, and a prejudicial effect on private practice, I think that there is not much doubt. For instance, I was called upon by a tradesman's wife, with her daughter, who had an abscess in the thigh. I advised that it be poulticed for two days, when, very likely, I should have to open it. This was agreed to, but she wanted to know how long she should poultice. Instead of returning to me, however, which she could do in about three minutes, the two went to the dispensary of one of our infirmaries, which is about eight times the distance, stated her case, and that she had gone there to get the operation done free; but the surgeon, who possibly from his private practice is acquainted with the tendencies of such people, sent them back to me, remarking that I had advised quite rightly. On the following day they went to the dispensary of the other infirmary, and there the operation was performed. This was all to save a shilling, which could well have been afforded, several members of the family being pretty regularly employed. Very rarely indeed do we hear of a dispensary surgeon doing as that gentleman did. On the contrary, I know a woman who took her child to the dispensary. The surgeon on duty attended that child afterwards privately in the same case, and rendered his account, which was shown to me. This woman was well connected socially. The well-to-do tradesman, or his wife, the spendthrift, and the respectably-dressed stranger are classes well represented at the dispensary. They are encouraged to go there, and they tell you that they "see the head doctor at the infirmary," and "get advice free." We private practitioners well know how we are called upon by those who "have no money," those who "are to pay on Saturday," but who never again turn up, and by those (to whom we gladly give gratuitous advice)—the deserving poor. What are the true objects of "medical charities?" And why are we licensed to practise while we find our interest very frequently injured by the same class of medical gentlemen, if we are unfit to do all for our patients that may be done in the dispensary?

Secondly, your leading article in THE LANCET of February 26th, pp. 339-40, should, by certain readers, be considered along with the fact that the druggists are largely opposed in their business by medical men. In one street alone in Glasgow, for instance, there are eight drug shops, two only of which are druggist's shops, and this proportion does not vary much in many of the other localities. It is not uncommon to find the doctor himself, even on a Sunday, and sometimes during public worship, behind his counter ready to retail cigars, sweets, hair-oil, &c., so that, *prima facie*, the druggist has some reasons why he should treat a patient when asked to do so. I speak of Glasgow and its suburbs alone, however. It would appear that medical men are too plentiful. The unkind and even dishonest treatment I received the other day at the instance of a medical gentleman of some standing, in the case of a patient I was attending, who asked and received advice of the former in opposition to mine, would lead one so to think. Can a remedy to the existing evils not be found, as now the question of medical reform is receiving attention, by lengthening the curriculum, and enforcing a higher standard of education, thereby improving the morals and professional accomplishments of the profession, while reducing its numbers relatively to the rapid yearly increase? Benefit would accrue to all concerned, not excepting the schools.—I am, Sir, yours, &c.,

March 2nd, 1881. R. W. E.

HOMERTON SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR,—The clerk who copied my statistical report concerning the Homerton Small-pox Hospital has made several mistakes in the latter portion, and I shall therefore feel obliged if you will print the following as a correction, beginning at the words "The cases," in col. 1, page 517: "The cases per 1000 population per annum in the ten years 1871-80 were as follows:—In the streets around the hospital 13·0, in those situated with a quarter of a mile radius in front and at the sides of the hospital 9·2, and in the other small houses 5·3 per 1000. The number of deaths from small-pox in 1861-70, after allowing for the deaths of residents removed to the Highgate Hospital, was 173, which gives an annual death-rate of 0·167 per 1000 population for the whole district. There were 15 deaths registered within the quarter of a mile radius, which, with 3 added for the proportion removed to the Highgate Hospital, gives 0·264 per 1000, against 2·45, or nearly ten times as many, in 1871-80 as in 1861-70. The proportion of deaths in the quarter of a mile radius in 1861-70 to the total deaths in these years was 10·4 per cent., whilst in 1871-80 it was 18·2 per cent. of the whole, or nearly twice as many, showing that the inhabitants of these streets suffered to a much greater extent as compared with the rest of the district in 1871-80 than in 1861-70.

I remain, Sir, yours faithfully,

JOHN W. TRIPE, M.D.,

Medical Officer of Health for the Hackney District.

Hackney, March 28th, 1881.

"HYGIENIC INFLUENCE OF HOUSE PLANTS."

To the Editor of THE LANCET.

SIR,—Will you allow me a remark on the above subject, on which there is a note in THE LANCET of March 19th. House plants may be of advantage to a phthisical patient in two ways—1st, directly by purifying the air; 2nd, indirectly, by indicating the purity or foulness of the air in which they are kept. It is a matter of everyday experience that many plants will not live on the products of gas and other combustion, nor will they thrive in dark and sunless aspects; and therefore the "enthusiastic floriculturist," while suiting his rooms to his plants, was doing unwittingly what was the very best thing for himself. I do not intend to deny any importance to the direct action of plants, but their indirect action should not be lost sight of, and in the case in point it is possible that as good results might have been obtained with the four children who died (provided they were in as good general circumstances as marriage at twenty-three years implies) if they had kept no plants at all, but merely paid scrupulous attention to the hygiene of ventilation and sunlight, or if they had been treated by a physician of whom it is related that on being called to a case of phthisis he used to begin treatment by breaking a pane out of the bedroom window with his stick.

I am, Sir, yours, &c.,

Torquay, March 22nd, 1881. A. HAIG, M.B. Oxon.

CAUSATION OF THE DIFFERENCE OF EARLY SYPHILITIC ERUPTIONS.

To the Editor of THE LANCET.

SIR,—I would be greatly obliged if you would publish this letter in THE LANCET correspondence column. I have for a long time sought to find whether there are any theories concerning the causation of the difference of the earlier syphilitic eruptions—why some should be papular and others erythematous. Is it due to idiosyncrasy or to variety of infection? By variety of infection I mean whether one form of rash has appeared more frequently from primary or secondary infection.

Again, does the difference in any way affect prognosis? Should any of your readers be able to direct me to any author who treats these points or can give his own knowledge, I for one, and I believe many others, would be glad to read his letter.

I am, Sir, yours truly,

March 27th, 1881. M.R.C.S.I.

AN APPEAL.

To the Editor of THE LANCET.

SIR,—Will you allow me space in your valuable journal to draw the attention of subscribers to Epsom College to a very deserving case. In September, 1879, Mr. G. S. D. Harris, a much respected practitioner of Leighton Buzzard, died suddenly, leaving a widow and ten children almost totally unprovided for, seven of whom are very young and entirely dependent upon her. The fourth son, Hamilton George Harris, is a candidate for the coming May election for a foundation scholarship. This is his second and last chance, as his age excludes him from another election.

I had the pleasure of an intimate friendship with the late Mr. Harris, and can bear testimony to the assiduity and kindness with which he carried out a most laborious but poorly paid practice. He died literally in harness, a victim to hard work and insufficient opportunities for relaxation in the effort to maintain a numerous family. The case is known to several influential persons.

I shall be happy to receive proxies and furnish any further particulars on application.—I am, Sir, your obedient servant,

CHAS. GROSS,
Medical Superintendent, St. Saviour's Infirmary, Walworth.

March 30th, 1881.

Mr. A. Smith should consult some skilled ophthalmic surgeon, not an optician.

Mr. Boon (St. Kitts).—The paper has not come to hand.

Mr. Sinclair.—Opinions differ as to the effect of flowers in bedrooms. The question is not yet sufficiently discussed.

Dr. G. W. Balfour's letter will appear in our next.

ERRATUM.—In Mr. Lowe's letter, published in the last number of THE LANCET, the temperature stated to be sufficient to destroy adult septic monads was erroneously put at 104° Fahr. It should have been 140° Fahr.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Althaus, London; Dr. Stephenson, Earlsland; Mr. Jessett, Erith; Mr. Atthill, Faversham; Mr. Dodd; Mr. Rendle, London; Mr. Wasse, Knighton; Mr. Lowndes, Liverpool; Dr. Handfield Jones, London; Mr. T. Green Birmingham; Mr. A. Smith, Liverpool; Dr. Fisher, Chelsea; Mr. A. Kisch, London; Mr. R. V. Ash, London; Dr. Drysdale, London; Dr. F. Taylor, London; Mr. L. Tait, Birmingham; Dr. Cassidy; Mr. Oswald, Camberwell; Mr. Steele, Walworth; Dr. Herchmer, Fort Saskatchewan; Mr. Wolverson, Alfreton; Mr. Pinkerton, Southport; Mr. Haward, London; Mr. Wheeler, Swindon; Dr. Cory, London; Dr. Uhthoff, Brighton; Dr. Tripe, London; Mr. Wright, Pendlebury; Mr. Gick, Dublin; Mr. T. P. Wright, East Bridgeford; Dr. Bampton, Plymouth; Dr. De Renzy; Dr. Banning, Dunblane; Dr. G. W. Balfour, Edinburgh; Dr. O'Hara, London; Mr. Ellis, Bristol; Mr. J. B. Sutton, London; Mr. Startin, London; Mr. Woodd, Penge; Mr. Barling, Birmingham; Mr. Flinn, Brownhills; Mr. F. Durham, London; Dr. M'Hattie, Antigua; Mr. Boon, St. Kitts; Dr. Goyder, Bradford; Mr. Gross, London; Mr. Moore, Winsford; Mr. Theodore Williams, London; Mr. F. Treves, London; Dr. Thorowgood, London; Mr. Hoff; Dr. Carrington, London; Mr. Malcolm Morris, London; Mrs. Southey, London; Messrs. Burroughs and Co.; Mr. Sinclair, Sydenham; Dr. Logan, Edinburgh; Mr. Richardson, Bryngwy; Mr. Macpherson, Middlesboro'; Mr. Lukis, Southampton; Mr. Denmar, Davos-Platz; Messrs. Woolley and Co., Manchester; Mr. Grace, Bristol; Messrs. Bennett Brothers, Salisbury; Dr. Blood, Kupanda; Mr. Vacher, Birkenhead; Surgeon-Major Pardon; Norman; A Subscriber; The President of the Incorporated Society of British Artists; One of Them; Iatros; M.R.C.S.E.; Allopath; Junius; &c., &c.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Clark, Folkestone; Mr. Harwood, Wakefield; Dr. Foster, Birmingham; Messrs. Bell and Co., Lancaster; Dr. Hincks, Hay; Mrs. Clarkson, Wakefield; Mr. Jeffrey, Epsom; Mr. Cousans, Lincoln; Mr. Foster, Kingston-on-Thames; Mr. Meredith, Huddersfield; Dr. B. Squire; Mr. Young, Chilton-Polden; Dr. Cooke, Manningtree; Mr. Turner, Worcester; Mr. Appleton, Stockton; Dr. Alderson, Hammersmith; Miss Sarr, St. Annes-on-the-Sea; Mr. Smith, Ongar; Mr. Thom, Edinburgh; Mr. Weekes; Dr. Reid, Exmouth; Messrs. Keith and Co., Edinburgh; Mr. Slidall, Stornaway; Mr. Pratt, Swansea; Nemo, Wellington; K. C., Whitstable; X. Y. Z.; M.R.C.S., Great Grimsby; I. S. S., Rageley; Doctor, Hackney; A. B., Newport; A. B., Sheffield; Princeps; Alpha; B. W.; Scarpa, Birmingham; Theta; M. E., Stoke Poges; E. M., Leamington; Registrar, Bath; T. G.; Fidelis; L. C., Willesden; K. A. F.; Delta, Cubitt-town; Medicus, Uxbridge-road; A. B.; K. K., Blakney; F. E.; Fides, South Lambeth; &c., &c.

Dunstable Borough Gazette, Traders' Times, Chard and Ilminster News, Derbyshire Times, Aberystwith Observer, Stratford Express, Paper and Print, Nottingham Journal, Birkenhead News, Medical Temperance Journal, Natal Mercury, Bradford Observer, North Wales Chronicle, &c., have been received.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year.....£1 12 6 | Six Months £0 16 3

TO CHINA AND INDIA ..... One Year, 1 16 10

TO THE COLONIES AND UNITED STATES.. Ditto, 1 14 8

Post Office Orders should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable at the Post Office, Charing-cross.

Notices of Births, Marriages, and Deaths are charged five shillings.

Cheques to be crossed "London and Westminster Bank."

ADVERTISING.

Books and Publications	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Seven lines and under (each averaging ten words).	
Every additional Line	0 0 6
Front Page per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An entire Page	5 5 0

The above Scale of Charges is arranged upon the basis of the classification adopted in the Index.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements (on page 2), which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 67, Rue Caumartin, Paris.